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The History of Architecture in India

Christopher Tadgell

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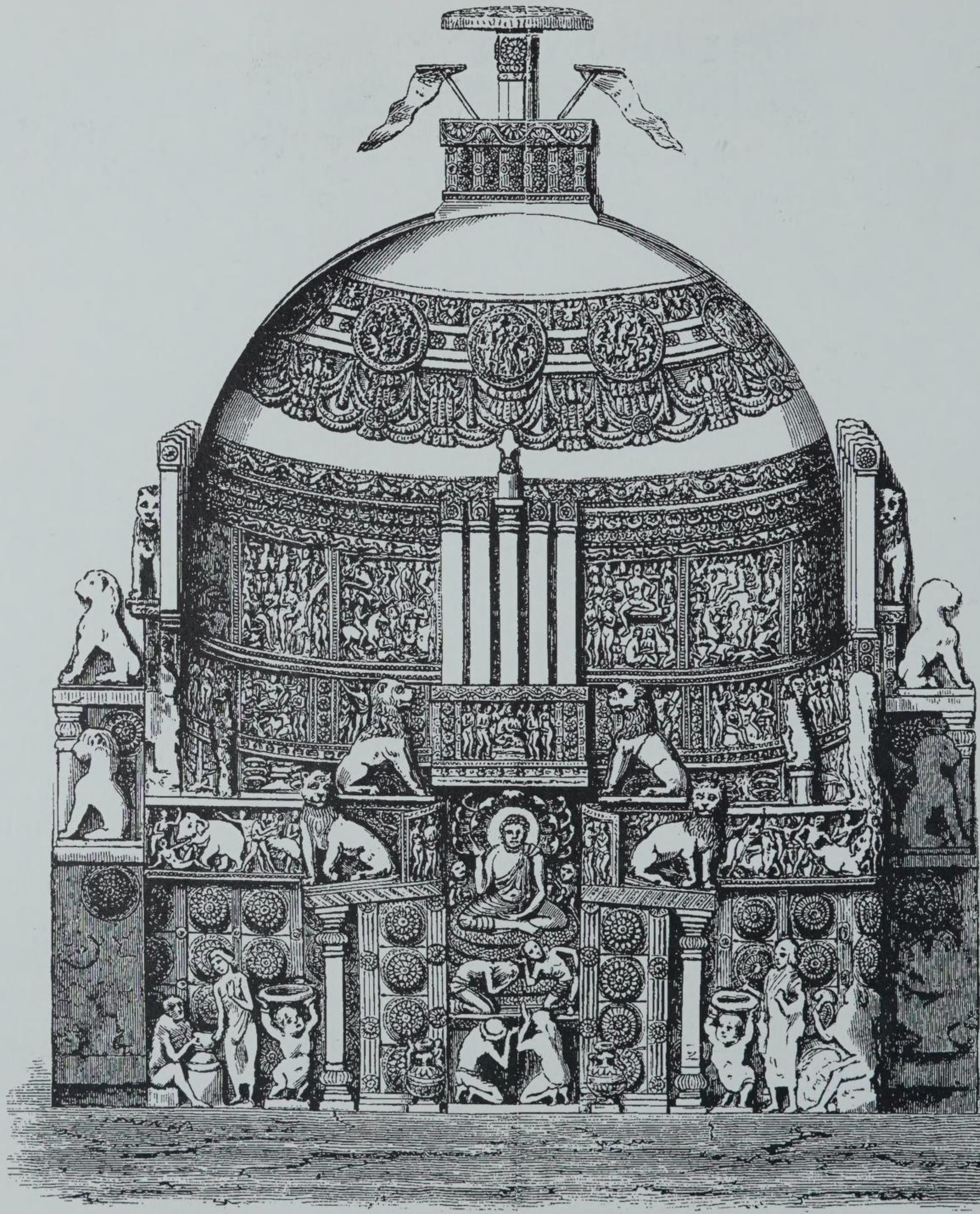
The History of Architecture in India



The History of Architecture in India

From the Dawn of Civilization to the End of the Raj

Christopher Tadgell

The Frederic Lindley Morgan Chair of Architectural Design at the University of Louisville, Kentucky, generously contributed to the cost of publishing this book.

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For Mimi

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Foreword

In the preface to the third volume of his new edition of the *History of Indian and Eastern Architecture*, London 1899, James Fergusson noted 'My endeavour from the first has been to present a distinct view of the general principles which have governed the historical development of Indian architecture, and my hope is that those who pursue the subject beyond the pages of the present work, will find that the principles I have enunciated will reduce to order the multifarious details, and that the details in turn will confirm the principles'. Thus he laid the foundations for the study of a seminal tradition largely alien to most immersed – to their cost – in the Western stream. Fergusson continued 'I shall have realised a long-cherished dream if I have succeeded in popularising the subject by rendering its principles generally intelligible, and can thus give an impulse to its study, and assist in establishing Indian architecture on a stable basis, so that it may take its true position among the other great styles which have ennobled the arts of mankind'. Fergusson succeeded, within the constraints of his time, but his dream is inevitably recurrent.

In general my aim too has been to produce an introductory synthesis drawing together all the strands of India's architectural history in one volume, stressing continuity. In particular I have tried to reduce historical and theoretical complexities to the fundamentals necessary for a full appreciation of the degree to which they dictated the architect's approach. The background material, divided between the five sections and fuller than has hitherto been considered necessary in this context, includes elementary history covering major invasions, migrations and other internal and external connections, the main religious and political events, their significance and repercussion, and external architectural developments. Dynastic history provides the key to the chronology adopted in each section to clarify the complex pattern of relationships in the evolution of Indian architecture. Though I pay more attention to the secular field than any of my predecessors, and avoid the usual misleading division of the subject in 'Buddhist and Hindu' and 'Islamic' parts, I acknowledge the importance of religion to all aspects of Indian life in the subtitle to each main section. These sections are subdivided in accordance with building types and the prototypical forms, which I consider to have been of fundamental importance to the whole subcontinental tradition, are introduced in the prologue – so too is the symbolism, mythological and theological, in accordance with which those basic forms were later to be transformed. Apart from substantiation, the notes at the end of the book contain usually controversial material on dating, list supplementary works and provide background of specific relevance to the issue concerned.

If Fergusson laid the foundations for the study of Indian architecture over a century ago, it was on ground prepared in part by Ram Raz, and the base was expanded and strengthened by the great contributors to the Archaeological Survey of India from Cunningham to Burgess, Cousens and Rae. In the 1920s Havell offered valuable insight into the dangers of viewing the subject in the light of Western Classical preconceptions, but it was Percy Brown in the 1930s who – not always free of those preconceptions – constructed the edifice which still provides appreciable cover, though it is long overdue for renovation, indeed rebuilding. In the attempt, ample guidance in the articulation of the central pavillion of a new structure is provided by Dhaky, Krishna Deva, Soundaran Rajan and Srinivasan. To the full range of unspecifically architectural elements, crucial to its utility, Basham offers indispensable introduction. And for me much of the delight – certainly the key to the appreciation of the indigenous essence – is given by Ananda Coomaraswamy. Beyond the works of such as these, elementary in the fundamental sense, there is a massive amount of literature. Usually the entry of a book in the bibliography incorporated into the notes is an affirmation of my indebtedness in some measure but, beyond that, I believe that as the author of an introductory synthesis, I had the duty also to introduce the reader to a comprehensive range of books for further reading – even if it has not proved possible for me to cover the whole range.

I have attempted to 'texture' the book by using 19th century engravings in addition to line drawings and photographs. If I am indebted to Fergusson for general perspectives, acknowledged in the reproduction of several of his woodcuts, I owe plan and section largely to Burgess and Cousens. Other sources are acknowledged in context. To my specification – and gratitude – the maps and plans were drawn or redrawn by students at the Canterbury School

of Architecture, notably David Langton-Jones and Peter Hutchings, and reproduced by Carolyn Bolton to a small range of consistent scales – generally 1:500 for individual buildings, 1:1000 for complexes and 1:2000 or 1:4000 for sites. I took almost all the photographs over the decade from 1978 – during which the book was written – but I am indebted to many of the officers at A.S.I. for much help in photographic research and for permission to reproduce their photographs for figures 39, 40, 73, 75, 102, 103, 109, 118, 120, 123, 124(c), 179, 204, 215(c), 217(b), 222, 280, 312 (a). I am also indebted to the India Office Library for figures 20(a), 300, 319, 320 (b), 341, to Virginia Fass for plates 20(b) and 26(a), figures 162, 164, 165, 237 and 253, Jenny Sands for plate 46(c) and to Adam Hardy for plates 13(b), 14 and 15(a), figures 96, 143, 145(a), 161 and 249.

I am grateful to the School of Architecture, Canterbury College of Art (now part of the Kent Institute of Art and Design) for time and materials. The Indian Council for Cultural Relations generously contributed towards the cost of my field study tours to Kerala and Bengal in December 1982. Daphne Dormer, Premod Chandra, Vidya Dehijya, Ainslee Embree, Oleg Grabar, Adam Hardy, George Michell, Pallavi Shah and Sir James Richards have kindly read the text and/or offered assistance with its publication, not least through constructive criticism – though, of course, this must not be taken to imply that they have endorsed the finished product. That this has appeared is due to Maritz Vandenberg, Kasia Paveliev, Jonathan Moberly and Margaret Little and especially to Tom Neville in whom I have had an author's ideal editor. Unacquittable, finally, is my debt to Tunku Munirah – acknowledged in the dedication – for ordering our early field-trips, for deciphering and typing the first fraught drafts and for persevering so long with a husband lost to an increasingly consumptive obsession.

Khyber Pass
Kandahar
Indus
Punjab
Bolan Pass
Baluchistan
Indus
Ganges
Yamuna
DOAB
Ghaghra
Gumti
Gandak
Ganges
Brahmaputra
THAR DESERT
Sind
ARAVALLI HILLS
RANN OF KUTCH
Gujarat
Malwa (Avanti)
KAIMUR RANGE
Bihar
Bengal
Kathiawar
VINDHYA RANGE
MAHADEO
Narmada
SATPURA RANGE
Tapti
Mahanadi
Hugli
Orissa (Kalinga)
Godavari
ARABIAN SEA
BAY OF BENGAL
WESTERN GHATS
DECCAN
EASTERN GHATS
Krishna
Pennar
Kaveri
NILGIRI HILLS
CARDAMOM HILLS
MALABAR
COROMANDEL
Cape Comorin
INDIAN OCEAN
100 0 100 200 300 400 500 miles

1. India: physical features.

Prologue: Early India

India

India here is the Subcontinent defined by the Himalayas, the Hindu Kush and the deserts beyond the hills of Kandahar, the Bay of Bengal, the Arabian Sea and the Indian Ocean – ancient Bharatavarsha within the 'Rose-apple tree Continent', Jambudvipa, the quarter of the world to the south of the cosmic mountain Meru.

Though there are links with the outside world through tortuous northern passes and desiccated western tracts, it was from the north-west, from the Oxus, through the valleys of the Hindu Kush and the passes of Khyber or Bolan that most visitors arrived. Confronting them almost immediately was the great river system which the indigenes called Sindhu: on the tongues of their western neighbours this became Hindus, hence Hindustan, and through them the Greeks knew it as Indus, hence Indika. The five tributary waterways of this system, rising in Kashmir, form the fertile Punjab in the north but after their confluence the main course lies largely through desert to the sea by Sind. Beyond the north-easterly continuation of this desert, the Thar of Rajasthan, is India's other great river system, the Ganges-Yamuna. This also descends from the western Himalayas to water the great plain of ancient Madhyadesha – once jungled, now cultivated while drenched by the monsoon from June to September, parched and blistering from October to May – which stretches from the Doab between the Ganges and Yamuna to the confluence of the Brahmaputra in the delta of rich Bengal.

In the west the Aravalli Hills separate Gujarat and well-watered Kathiawar from Rajasthan. From the Kaimur Range in the east the Mahanadi flows to water Orissa. In between the Vindhyas and associated ranges, cut by the westward-flowing Narmada and Tapi, divide the northern planes from the Deccan, the peninsula's arid plateau. The Deccan's rugged fringes, the Western and Eastern Ghats, fall to lush tropical plains, narrow Malabar in the west, expansive Coromandel penetrating deep into the eastern hinterland along the valleys of the Godavari, Krishna, Penner and Kaveri. Coromandel and all the land of the south-east to Cape Comorin, cut off from Malabar by the Cardamoms and from the Deccan by the junction of the Eastern and Western Ghats in the Nilgiris, forms a distinct entity, the Dravidian heartland of the Tamils.

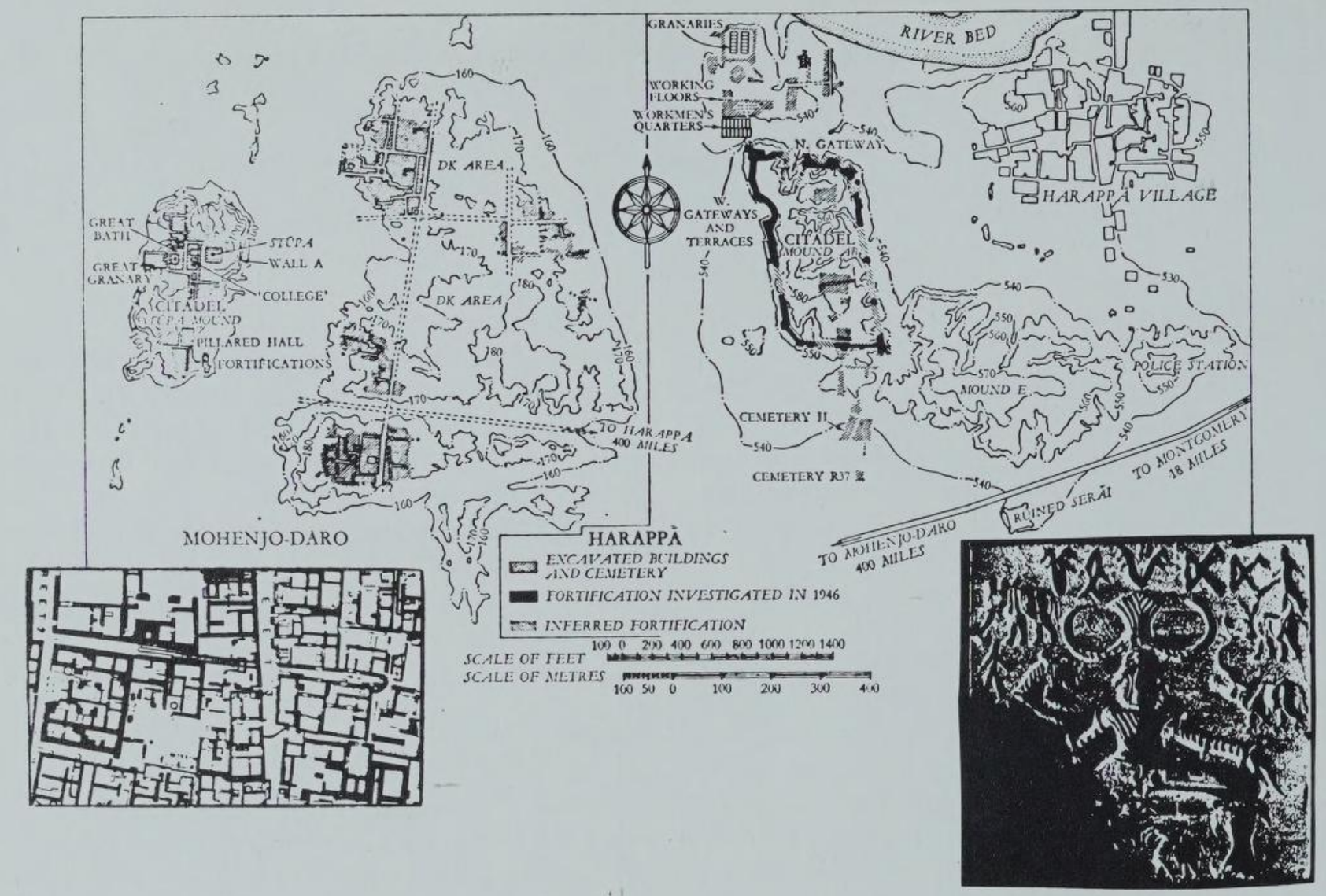
If the Indus provided foreigners with a name for the Subcontinent, the Ganges-Yamuna provided the inhabitants themselves with their most potent source of identity: the waters of the Gods sent down to man from their mountain, Meru. Despite the geographical diversity embraced by Bharatavarsha and the ethnical diversity of its peoples, from that source of identity sprang a sense of cultural community and the ideal of political unification provided recurrent inspiration to the ambitious for well over two millennia.

The Indus Valley Civilization

The history of India opens about the middle of the 3rd millennium B.C. with one of the seminal civilizations of the world. Its centres were several cities on the banks of the Indus and its tributaries, notably Mohenjo-daro and Harappa, but related sites have been discovered across the vast area from western Pakistan to the Ganges valley and from northern Afghanistan to Kathiawar. Having left scant written material in a language that has as yet eluded reconstruction, little is known about it but a picture has emerged of an efficient, centralized, agrarian economy with a highly ordered urban culture which seems to have reached its peak in the first quarter of the 2nd millennium B.C.[1]

Conservative, probably theocratic, the authorities seem to have excluded influence from the progressive cities of Mesopotamia, with whom they are known to have maintained contacts, although their prosperity does not seem to have been based on trade. A wide range of ceramic and bronze objects, some resembling those from Sumerian sites and most unchanging in type over the course of centuries, include statuettes readily associable with fertility rites. Most characteristic are the small finely worked white steatite 'seals' inscribed and bearing the emblems of the affluent, which are perhaps the civilization's most celebrated artefacts. The inscriptions remain uninterpreted but their devices, together with the statuettes, suggest worship involving the Mother Goddess, a horned deity, a bull, a phallic element, trees and the genii of sacred spots – all of which seem to foreshadow later Indian cults.

Throughout the area, civic planning was based on a rectangular grid orientated to the cardinal points and standardized brick was the main building material. A high



2. Mohenjo-daro and Harappa: plans: seal with ithiphallic figure, inset.

proportion of the population lived in substantial, well-drained courtyard houses. Like Mohenjo-daro and Harappa, most of the cities were walled and dominated by citadels to the west containing the public buildings, including granaries. No clearly religious building type has been identified but the so-called 'Great Bath' at Mohenjo-daro may be a tank like those invariably associated with later Indian sacred sites.

The Vedic and Native Traditions

The decline of the Indus Valley Civilization spanned the second quarter of the 2nd millennium B.C. Its causes are obscure but about that time, in one of the major upheavals of ancient Eurasia which is hardly likely to have been merely coincidental, diverse fair-skinned tribes originating from the steppes of Central Asia began to enter India from Iran through the passes of the north-west. Related to the hordes who invaded the Aegean area at much the same time, they are known as 'Indo Aryans' – their language, Sanskrit, belonging to the Aryan group like the classical languages of Europe. Prominent amongst them were the Bharatas who gave India its ancient name.

Nomadic herdsman, the invaders conferred divinity on a wide range of natural phenomena – especially those of the sky which affected their flocks. Their tradition, ultimately enshrined in a great series of compositions called *Vedas*, centred on propitiatory sacrifice at a fire altar, principally of a potent mixture of milk and vegetable juice called *soma*. The native peoples, on the other hand, were settled in relatively advanced agrarian communities not unrelated to those of the Indus Valley Civilization. Their tradition, obsessed with fertility, was centred on the image-orientated worship of the Mother Goddess but also embraced popular devotion to the water or tree spirit (*naga* and *yaksha*) of a sacred place or object (*chaitya*) at an altar table (*veyaddi*) dedicated to the offering of flowers and food.[2]

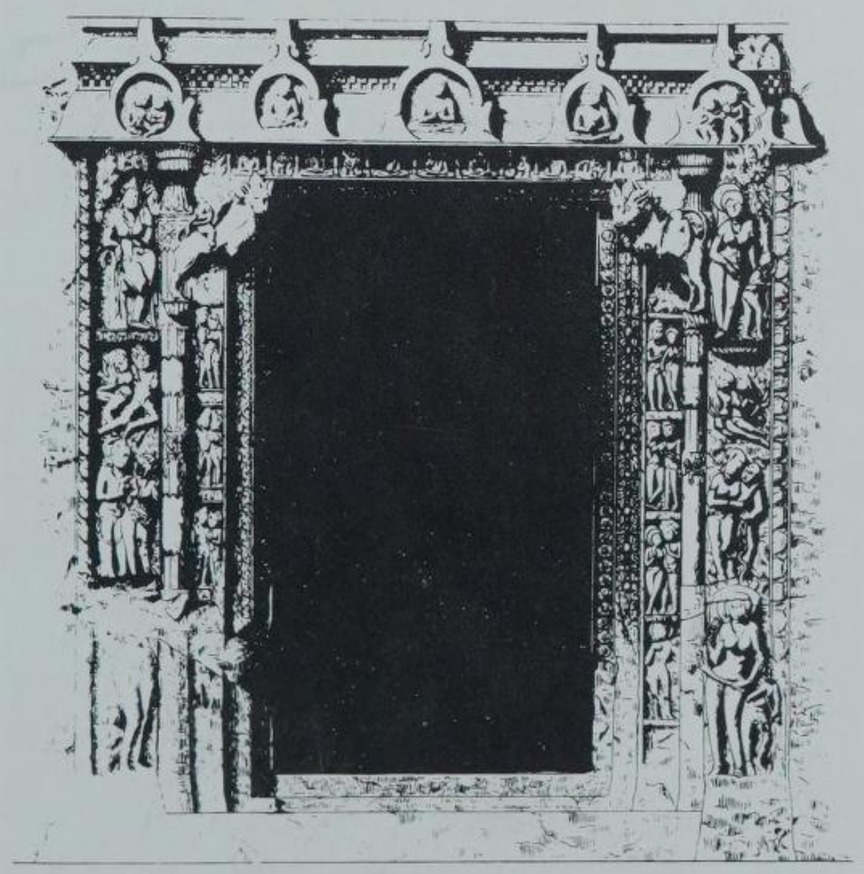
In their slow infiltration of the Subcontinent from the Indus to the Yamuna, across the Doab, down the Ganges, over the Narmada, into the Deccan, the Aryans subjugated the natives whom they despised for their dark skins. With disturbing consequences for tribal traditions, however, they gradually acquired settled ways. The Moth Goddess offered solace and the cult of *yakshas*, as the source of abundance, was as relevant to the new settlers' livelihood as it was to the old. As we shall see, the synthesis of the Vedic and native traditions, in particular the substitution by Buddhists and Jainas of worship for sacrifice, generated the change from Brahmanism – as the evolved Vedic religion is sometimes called – to Hinduism and is of prime importance in the evolution of India's religious architecture.

The earliest and most important of the Aryan compositions, the *Rig Veda*, was a collection of hymns dedicated to the power residing in the sacrificial ritual. In these are incorporated verses relating basic mythology. In the most venerable, Varuna, guardian of 'Cosmic Order', ruled over Meru. Amongst the most important of the thirty-three inhabitants of Meru were Indra the Storm-god, Surya the Sun-god, Agni the Fire-god (the Sacrificial Purifier), Yama the god of Death and Soma the god of the Sacrifical Liquid (the source of vitality), later associated with the Moon as Lord of Plants. The dead had originally been buried in mounds (tumuli), as it were consigned to Yama, but by Vedic times they were being cremated, as it were consigned to Agni.[3]

Varuna is the 'Unborn', reclining on the Cosmic Ocean which held the 'Germ of all Existence', and through his navel the Germ sends forth the 'Tree of Life'. A crucial step in the synthesis of the Vedic and Native traditions, which constituted the so-called 'Water Cosmology', was taken in the late *Atharva-Veda* with the indentification of the 'Unborn' as the Great Yaksha. As we have seen, *yakshas* controlled fertility and abundance for the native devotee. They were to be accepted by Vedic writers as attendant upon their lord in the guardianship of the 'Vital Essence' of the Waters, guiding its operation through its cyclical course from Ocean to Heaven and back in the infusion of sap, semen, *soma* – the life of plants, animals, man and the Gods.

With the 'Guardianship of the Cosmic Order' and 'Dominion over the Vital Essence' identified in him, Varuna was the 'Ideal Heavenly King', fount of Justice and Prosperity. The *soma* sacrifice was seen as essential as much to restore his virility after the winter of his impotence as to obviate his anger at the failings of earthly kings, manifest in the withholding of the rains. He required stimulation, however, and this was the role of his consort, the Great Yakshini, the River-Goddess – identified with holy Ganges and Yamuna. The ideal of male power as latent and transcendent, like the unseen forces of the sky, and the female as imminent and active, like the Great Earth Mother herself, is essential to Indian pantheism: generation is their coming together.[4]

For Varuna's tree the lotus often stands as a symbol of the unfolding universe, born of water-borne earth. The cycle of the waters laden with 'Vital Essence' is symbolized by the goose (*hamsa*), the 'Vital Essence' itself by the crocodile (*makara*), the vehicle (*vahana*) of Varuna. Water is represented by the water pot (*kumbha*), vase or bowl (*kalasha*). With lotus vegetation issuing from its mouth, the *makara* has its equivalent in the bowl with lotus foliage trailing from its brim (*purna-kalasha*), the inexhaustible cup from which the deity is revived at the sacrifice, and in the *yaksha* sprouting at the navel, the very image of fertility and abundance. The dual aspect of the *yaksha* as guardian and guide of 'Vital Essence' is reflected in the twin imagery of the armed male defender (*gandharva*) and the voluptuous female stimulator (*apsara*) tree-borne or mounted on a *makara* and festooned with pearls (*mukta-sara*), the richest fruit of the sea, as the River-Goddess, consort of Varuna. The stimulation of the male deity's activity by his consort is the significance of the most potent and controversial of all India's images, 'the Productive Couple' (*mithuna*). From the earliest surviving examples these range from figures shown merely 'in dalliance' to the sexually explicit contortions of the celebrated masterpieces of Konarak and Khajuraho. 133; *14*



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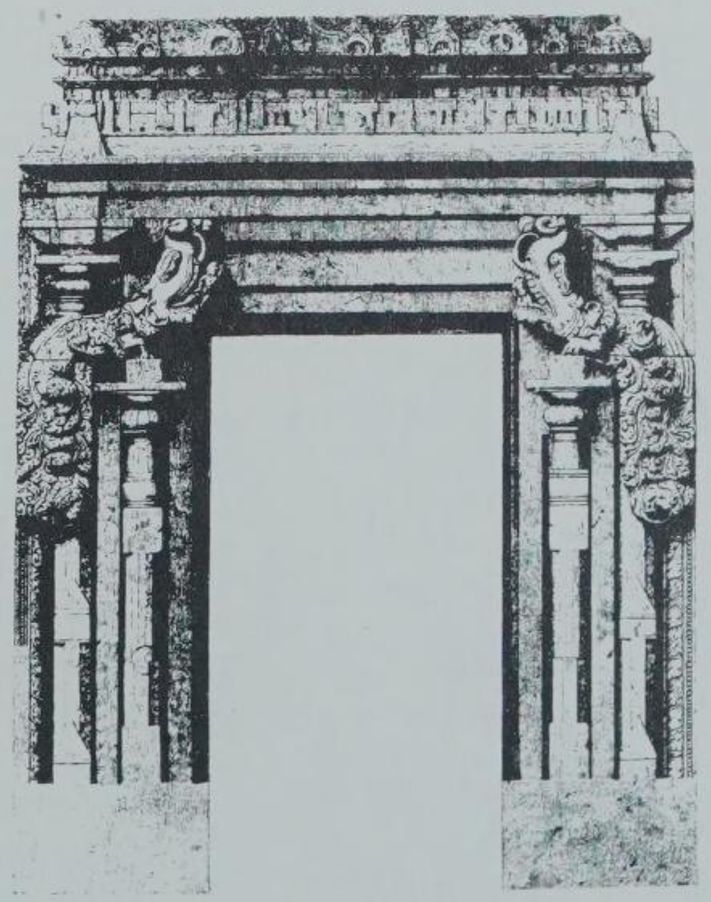


3 (b)

3. 'Water Cosmology' symbols: **(a)** Ajanta IV *mithuna* portal; **(b)** Pattadakal, Jaina temple *makara* portal.

Indra, the great warrior, vied with Varuna for primacy, each claiming the principal role in creation – Varuna was probably a pre-invasion patriarch but Indra's prestige grew with the tribes' advance. Thus Indra slew Vitra, demon of evil and obstruction who held back the waters of life in undifferentiated primordial mass: the waters spilled forth and, pegging Earth to the floor of Ocean and propping up Heaven, Indra released the sun to generate the Cosmic Cycle. In recompense he was recognised as King of the Gods and in mythical terms kingship stemmed from Indra's delegation of power to the first terrestrial ruler, Vasu.

Indra's weapon was his thunderbolt (*vajra*), or pole (*yashti*), the standard of his imperium (*dhvaja*), the Cosmic Pillar (*skambha*) with which he established the law (*dharma*) of the universe, the Axis Mundi about which the Cosmic Cycle revolves – identified with Meru. In the sacred enclosure dedicated to the Vedic Sacrifice, the stake (*yupa*) stood for this *skambha* of cosmic *dharma*. Indra endowed Vasu with a *yashti* as *dhvaja*. To ensure his potency to uphold his realm's *dharma* in victorious combat, each of Vasu's successors carried a *yashti* into battle as *dhvaja* surmounted by his own personal device, and annually re-erected it in a hole or pot (*kumbha*) filled with water at a sacred spot (*chaitya*) in re-enactment of Indra's cosmic effort.[5]

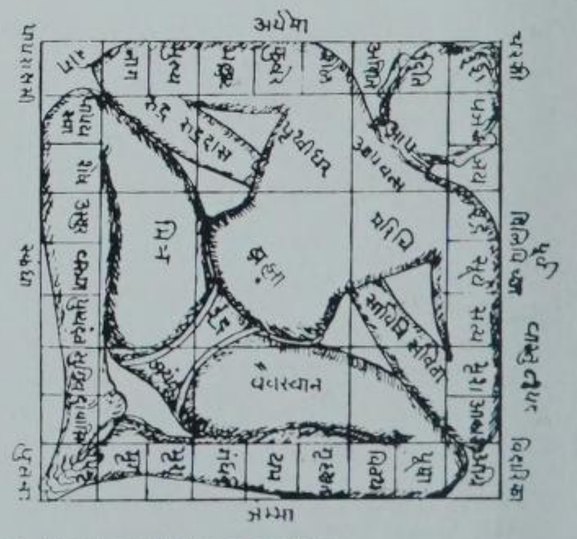
4. Bharhut, *stupa* railing: Indra's standard.

Religious Developments and the Formula for Sacred Building

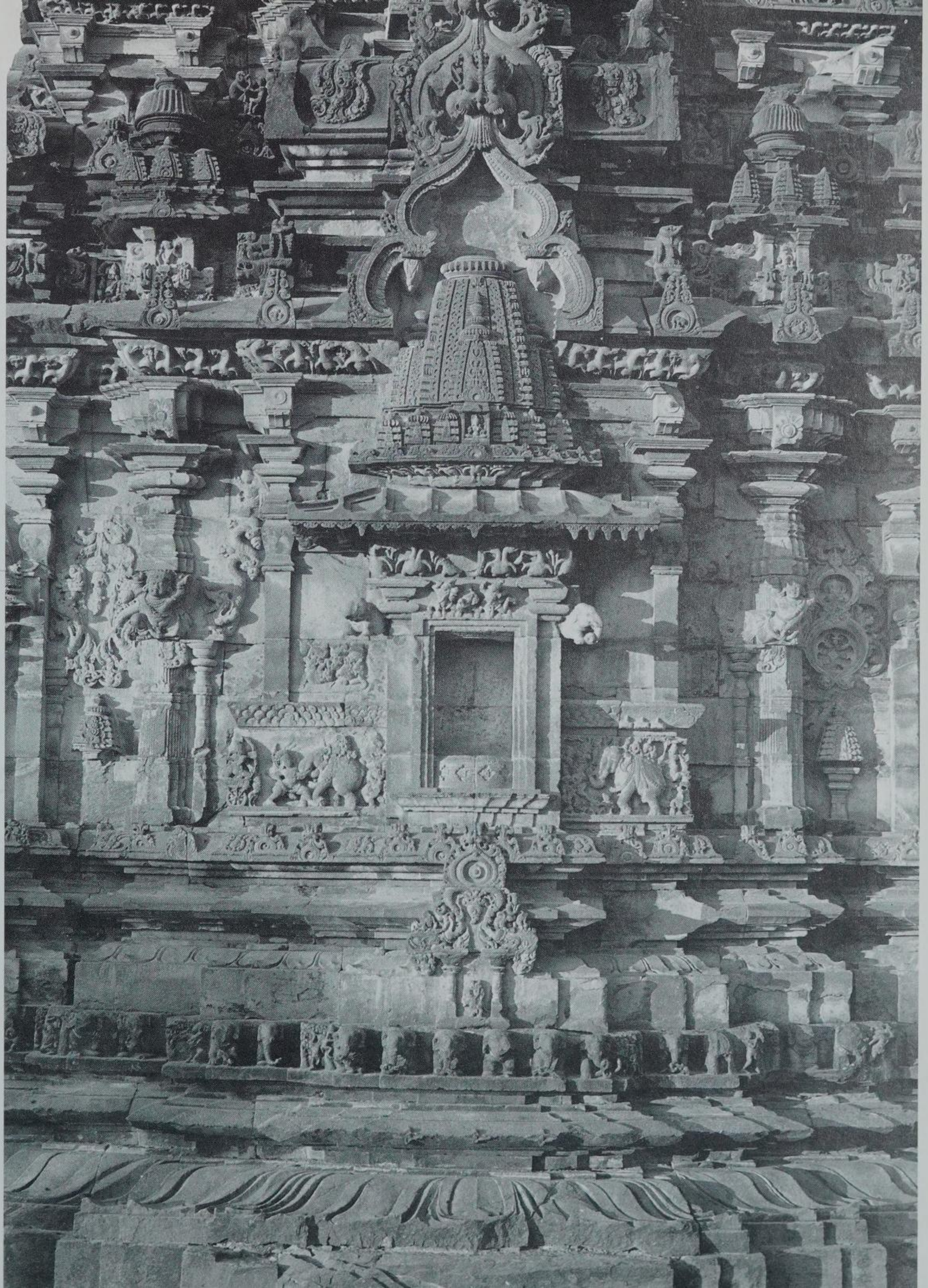
In the age over which the Vedas were composed and the centuries of commentary upon them which produced the corpus called *Brahmanas*, the Aryans groped towards the comprehension of 'Motive Power', and identified it as Brahman. Brahman was originally the magical power of the Sacrificial Formula – hence the priests, who laid exclusive claim to understanding the Formula, were *brahmins* and their religion came sometimes to be called Brahmanism. The mystical identification in Brahman of the force of the Formula and the 'Motive Power' behind Existence implied the identification of Creation and Sacrifice, then of Creator, Sacrificer and Sacrificed. The identification in Varuna of the passive 'Unborn' and the 'Great Yaksha' is subsumed in the Purusha, the 'Essence and Existence', who is mystically motivated to self-sacrifice. The Purusha was later personified as Prajapati, the Progenitor, and was to become Brahma.

The Purusha was undefined before creation but in eventual self-consciousness was stirred by Desire, the origin of which was the subject of much speculation but the nature of which is most potently represented as fire. Yielding to it, the Purusha sacrificed himself in division, the pre-condition for generation. When this division is seen in terms of the differentiation of Male and Female, 'Existence' – the descent of the Purusha from undifferentiated principle to manifestation – results from 'Cosmic Intercourse'. When it is seen in terms of the differentiation of Good and Evil, Order and Chaos, or Light and Dark, it provokes the Cosmic Battle of Gods (*devas*) and Demons (*asuras*) which issues in 'Cosmic Order' – and probably had its origin in the conflict between the Aryan invaders and the native *'dasas'*. The fallen Demons are laid out on earth and invested by the Gods in the positions they held at the moment of victory, as Order – the embodiment or residence (*vastu*) of the Purusha. This is the macrocosm – represented variously as the Palace (Prasada), the City (Ayodhya) and the Mountain (Meru) of the Gods. It is also the microcosm, Man.

The Purusha's sacrifice was repeated in every Vedic sacrifice through his mystical identity with the sacrificer: the agent is fire and the sacrificial body, the fulcrum of identity between macrocosm and microcosm, is the altar. The constitution of the altar becomes the reconstitution of the Purusha's Order or residence (*vastu-purusha*). The structure of the *vastu-purusha* is comprehended through the dual study of man and the heavens. As number is the order of the cosmos, this structure may be represented in a diagram (*mandala*). Post-Vedic commentary elaborated abstruse mathematical and geometrical formulae for such a diagram to bind the Purusha to a specific place (*vastu-purusha-mandala*) for the purpose of worship – when worship



5. *Vastu-purusha-mandala.*



6. Lakkundi, Kashivishveshvara Temple: detail of *vimana* with *kirttimukha* gable.

succeeded sacrifice – providing the programme for any architectural exercise meant to accommodate that worship.

Earth appears circular but in the supreme reality beyond appearances, where earth is clasped by heaven, it is four-cornered, the points of contact manifest in the rising of sun and moon balanced by the poles. Moreover the figure defining Man in perfect measure – Prajapati – was also seen to be square and the square is subdivided into further squares ultimately in accordance with a series of *vastu-purusha-mandalas*. The central square, the Brahmasthana, contains Prajapati's navel, the source of life. The outer squares are allotted to the other thirty-two deities of the traditional Vedic pantheon – which, of course, are facets of the one divinity. The principal ones are aspects of the sun (Surya) and moon (Soma). These are paired with the regents of the eight directions of space (*ashta-dikpalas*), controllers of the destinies of men. The movement of the sun and moon through these aspects is symbolized by the *svastika*. Their divergent courses, prompting growth, coincide for the birth of the new moon, governing life, and are reconciled in the embrace of eclipse (Rahu), the recurrent cosmic sexual act from which 'Existence' is reborn. The *vastu-purusha-mandala* plots that divergence, coincidence and reconciliation in relation to a specific place.

In this system, incidentally, Varuna and Indra reappear in collaboration with old Yama (Death) and new Kubera (God of Productivity, usurper of Varuna's lordship of the *yakshas*), as *lokapalas* (the guardians of the cardinal directions, south, north, west and east respectively). The 'Motive Power' behind 'Existence' is symbolized by the leo-gryph *shardula* and Eclipse is symbolized by the leonine monster *kirttimukha*.[6]

Social Developments and the Upanishads

In the first half of the last millennium B.C., thinkers in the fertile periphery of the Vedic world – outer Madhyadesha, between the Ganges and the Himalayas – produced a series of works called *Upanishads*. Much in these reflects the consequences for the Aryans of their career as invaders, particularly the disturbing impact of settlement and native ways on tribal traditions. Their unifying thread is enquiry into the nature of reality – especially the relationship between the Purusha, thought of as 'World Soul' or Brahman, and the inner reality of the individual soul (*atman*). Their dominant trait is the profound humanity of their concern for salvation in reaction to the exclusive sacrificial ritual of the *brahmins*. They culminate in a supreme statement of the salvation ideal, the sacred poem called *Bhagavad-Gita*. Here the 'Divine Absolute' behind all natural phenomena emerges as a personal deity whose grace is invoked to effect man's salvation through devotion.

Under the impact of his novel circumstances the Aryan came to see worldly existence as change and delusion as distinct from the realm of the absolute and true, Brahman. The idea that worldly existence was cyclical – birth leading to death but death, itself illusory, leading to rebirth – derives from the 'Water Cosmology'. The idea that all forms of life are unified through the transmigration of souls repeatedly from life to life (*samsara*) followed and from this followed the conception of moral order and the belief that the deeds of each creature determine the level of its next existence (*karma*). Liberation (*moksha*) from the worldly realm of existence – and release from the cycle of transmigration – was to be obtained in the union of the individual soul with Brahman. All the major indigenous religions of India, subsequently, have been devoted to this end.

The interaction of conquered and conqueror had fundamental social effects too. It is clear from the earliest literature that the warriors, the priests and the common people were recognized as constituting distinct but not immutable classes – with the warriors predominant in a nominally democratic, but essentially oligarchic, system of government. The element of exclusiveness that distinguishes caste from class emerged when the invaders reduced the natives to slavery, delegated menial tasks to them and proscribed inter-racial marriage for fear that assimilation would lead to the loss of Aryan identity. Caste lines were finally given religious sanction when the priest won supremacy over the warrior on the institution of hereditary monarchy and the divine ordination of kingship, for they alone could invoke the divine through the Sacrifice.

The early Vedic ruler seems to have had a straightforward contractual relationship with the ruled: the chief, originally the patriarch of the joint family, maintained his position in return for the fulfilment of his obligations to protect the tribe from enemies and foster its prosperity. Responsibility was to some extent shared by tribal councils and the role of the chief priest was crucial, for on his proper performance of the Sacrifice victory and prosperity depended. With expanding nationhood and the weakening of familial ties, the pragmatic relationship between chief and people was supplemented, if never entirely supplanted, by the mystical one of god-given kingship. In the foothills of the Himalayas, however, the tribal assemblies rather than the chiefs gained ascendancy in republics.

With their divinely ordained kings and powerful priests, the monarchies were the centres of Vedic orthodoxy as it had developed in the first half of the last millennium B.C. The republics, on the other hand, tended to be more favourable to the individualistic and unorthodox and may even have been founded in opposition to entrenched Brahmanism. They provided fertile ground for the growth of religious reform movements catering for the aspirations of the newly rising mercantile sections of the expanding urban communities, who were inimical to the increasingly abstruse ritual of the priests.

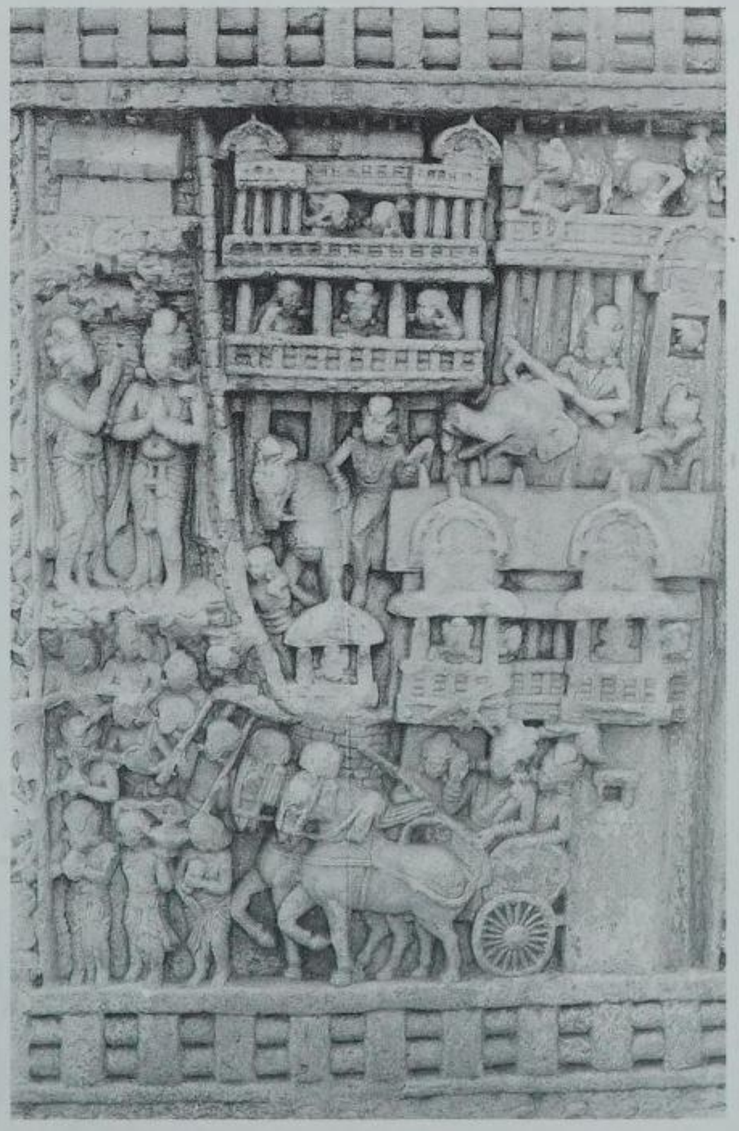
Village, Town and Fort

Nothing tangible survives of Vedic sacred structures before the 2nd century B.C. Indeed there are scant traces of any early buildings outside the Indus valley, beyond the south-Indian megalithic tumuli and caves which may well reproduce the huts of the living. However, India's great corpus of ancient literature provides invaluable guidance in the reconstruction of early settlements and building types. Foremost are the great epic poems, the *Ramayana* and *Mahabharata*, which embroider the establishment of Aryan rule in India, and the *Jataka* collection of folk legends woven about the career of the Buddha. India is also rich in professional treatises (*shastras*). Primacy goes to the one on statecraft, the *Arthashastra*, associated with the great Mauryan chancellor Kautilya. Beyond the written word, powerful images are provided by the relief or fresco cycles of Sanchi, Bharhut, Amaravati and Ajanta.[S7]

Presumably adapting native practice to their patriarchal social system, the Aryan village community consisted of several families each with is own house (*griha*), cowshed and granary in its own compound centred on a courtyard. These family establishments were arranged informally around a hall (*mandapa*) for the headman and communal assembly (*sabha*), which possibly replaced, or remained associated with, a special tree. While forms naturally varied across India in accordance with materials available and climate – especially rainfall – later monumental architecture throughout the sub-continent was to be influenced predominantly by the types traditional to the Ganges basin where Upanishadic thought and the devotional ideal took root. After the 6th century B.C. these were to be sanctified by association with the Buddha and widely disseminated through the images of the centres of the Teacher's activities, which embellished Buddhist monuments.

In early reliefs, circular, square, and rectangular huts are shown coexisting. On a framework of bowed bamboo, conical or pyramidal roofs rise to a pot-shaped finial, rectangular ones may be gable-ended and semi-cylindrical. Bamboo and thatch are the materials most often mentioned in Vedic literature but wattle-and-daub was common and the reliefs suggest familiarity with brick and tile. It is generally assumed that the railings and portals which bear the reliefs at the major Buddhist sites reflect those of the Vedic sacred enclosure (*vedika*) and these sanctified forms were used for the timber palisade and portcullis defending the village itself.

The *shastra* rules for consecrating and laying out a sacred site, later transmitted by the treatises as governing temple architecture, applied also to village, camp and fort: they had a common origin in the camp of the tribal warriors which developed – with agriculture – into a place of refuge for the



7. Sanchi, Mahastupa *torana* reliefs: **(a)** early village scene; **(b-c)** early towns.

peasants and animals defended by earthworks and a timber palisade. Kautilya's classification of fortified establishments is based on four types of site. They were best perched on precipitous outcrops of rock, as the acropolis of a town, or isolated by tracts of wilderness or water but often strategy overruled tactics and a fort had to be founded on the open plain – then water was introduced and the land beyond laid waste to form moat and *maidan*, a field open to the fire of the defenders. For the standard six types, wilderness could mean desert or forest and marsh was distinguished from open water. The sixth category, reflecting the Aryan identity of fort and town, covers fortified towns in open country relying for their security on the ingenuity of man. Beyond their natural advantages – or artificial devices – the strength of all the types depends upon ramparts and the materials used in them – mud, stone, timber etc. – sometimes make further categories.

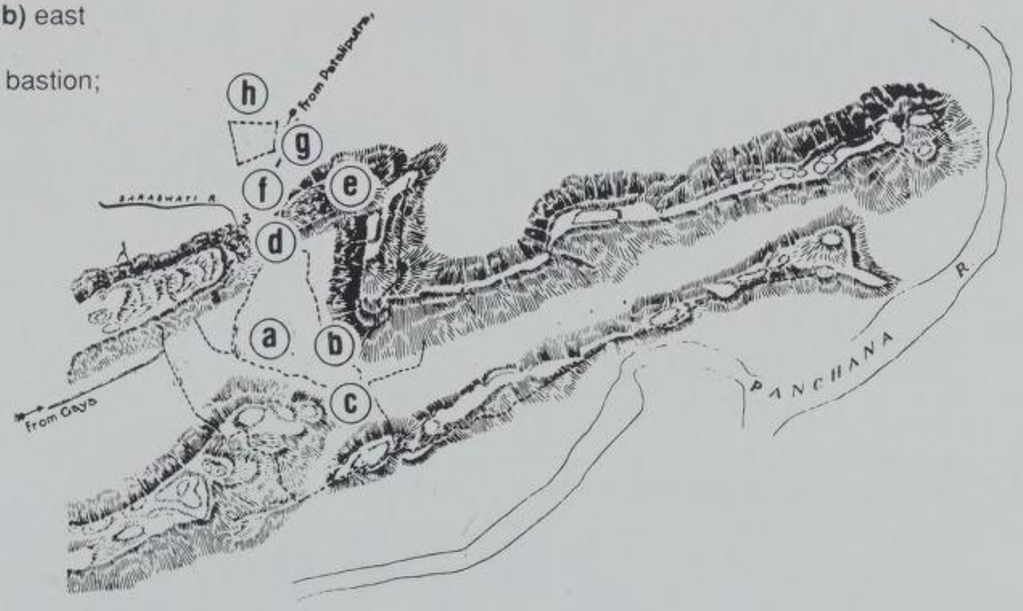
Where necessary – in metropolitan forts particularly – the ramparts were to be surrounded by several ditches, indeed they were most usually formed from the impacted mud dug from the ditches. Kautilya calls for three ditches, spiked and filled variously with sand, mud and constantly flowing water diverted from the river by which the settlement was sited, and alive with crocodiles. The ramparts would be planted with poisonous bushes and crowned by several ring walls of brick, graded in height and twice as high as they were broad. These had roofed walks wide enough to accommodate patrols in both directions and square towers. Gates, between twin towers and large enough for elephants, opened the main axes of the town. Each was preceded by a drawbridge spanning the ditches and, these apart, an assailant was to be thwarted by a wide range of obstacles including tortuous deflection of the path and concealed pits filled with thorns or wild beasts.

Apart from their fundamental grasp of all the advantages to be drawn from naturally defensible sites, it is clear from Kautilya that the ancient Indians were familiar with the two basic methods of augmenting them: walls covered by flanking fire from regularly spaced towers; defence in depth provided by concentric rings of walls and moats with advanced outworks controlling the approach. And in ingenuity above all, Indian fort builders were to prove themselves the worthy heirs of Kautilya.

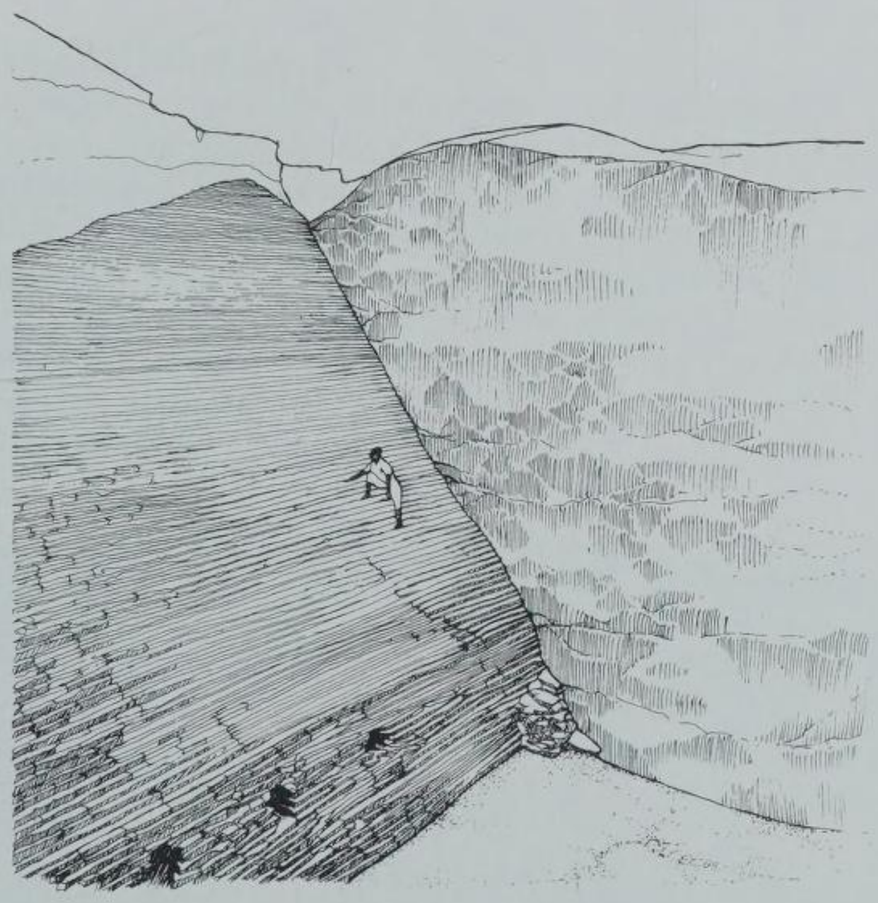
Within the defence works a ring road corresponded to the path around sacred sites. While the perimeter conformed to the location – half-moon, for instance, in the bend of a river – the ideal town was rectangular. Kautilya's planning starts with two major axial roads aligned with the four cardinal points. These, with parallel subsidiary routes, divided the town into wards graded to accommodate the various castes. The gods were installed at the central crossing, the king to the north. Not unlike that of the gods, the king's walled complex of courts and pavilions (*vimana* or *prasada*), is sometimes referred to as the 'inner town'.

If there is no complete picture of the 'inner town', several reliefs from the gates to the Mahastupa at Sanchi provide a clear general view. Typically, a probably ceremonial portal (*torana)* in an outer palisade precedes a drawbridge which leads to a twin-towered, galleried gatehouse (*dvara*) in a massive wall. Crenellation, embrasures for marksmen and battering were characteristic and the projection of the gate towers' upper storeys may have accommodated elementary

8. **(a)** Ghantashala relief fragment: *prasada*; **(b)** Ajanta I, fresco: king in audience.



9. Rajagriha: site plan **(a)** inner fort; **(b)** east gate; **(c)** south gate; **(d)** north gate; **(e)** Maniyar Math; **(f)** Suraj Kund; **(g)** bastion; **(h)** outer fort.



10. Kaushambi, ramparts.

machicolation. Within these defence works are clustered regular and irregular *prasadas*, those with cell-like pavilions bordering superimposed terraces providing a monastic prototype.

A *vastu-purusha-mandala* governed the organization of the 'inner town's' palace facilities, the *shastra* list of which included an armoury, granary, temple, treasury, halls for public and private audience, the king's bedroom and quarters for the royal ladies. The armoury, granary and temple were located in outer courts. The main court was dominated by the hall of public audience (*raja-bhavana*) at the head of the king's quarters. Inner courts served the king's pavilions and the enclosed accommodation for the women (*zenana*). Like the *prasada vimanas* illustrated elsewhere, for instance in the fine fragment from Ghantashala – the kings' pavilions were presumably multi-storey, timber trabeated structures. The upper levels no doubt contained the living quarters, often arranged in apartments. Perhaps walled only with lattice-work and lit by windows (*gavaksha*) with grilled shutters (*jali*), the storeys may be stepped back with full-length bay windows opening onto balustraded terraces (*alinda*) often accommodating square or rectangular pavilions (*kutagara* or *chandra-shala*). The ground floor, sometimes with recessed brick walls forming verandahs or porticos, was occupied by the treasury, a reception hall (*mandapa*) and service rooms. In royal palaces private audience would have been held in the ground floor of the king's principal *prasada* below his chamber. The frescoes of Ajanta give a timeless image of the *raja-bhavana* which scarcely defies expansion to match the scale of the 'Thousand-pillared' halls referred to in early literature.[8]

Organized civic life developed hand in hand with nationhood, for with settlement came geographic identity, territorial ambition and the coalescence of new nations across tribal boundaries. By the 4th century B.C., when Kautilya was writing, great metropolitan forts had long been known in India, as the many references to them in the Epics admirably demonstrate. The most important ones, established in the first half of the last millennium B.C., straddle the Madhydesha from Mathura on the Yamuna to Magadha on the lower Ganges. Another series leads south from Nagada and the great Avanti capital of Ujjain across the Narmada at Maheshwar into the Deccan. Amongst the most important remains are the walls and bastions of Rajagriha, in part of cyclopean masonry, and excavations at several other places in the Ganges basin, notably Kaushambi, have revealed commodious courtyard houses protected by great battered walls of burnt brick, punctuated by towers.

In general the remains do not contradict the vivid impression of life in these centres conveyed in the Epics and depicted in the reliefs. Certainly the reliefs and the remains of Rajagriha, for instance, reveal little of formal planning but the epic accounts of cites like Ayodhya, Mathura and Indraprashta (Delhi) echo – or pre-echo – the theories for order and defence outlined above. The remains and descriptions of the early Pandyan capital. Madurai, suggest that practice was not far from theory and perhaps the most potent living witnesses to this are the 'temple-cities' of the south, not least the great Minakshi complex of Madurai itself.

1 Fourth Century B.C. – Fifth Century A.D.

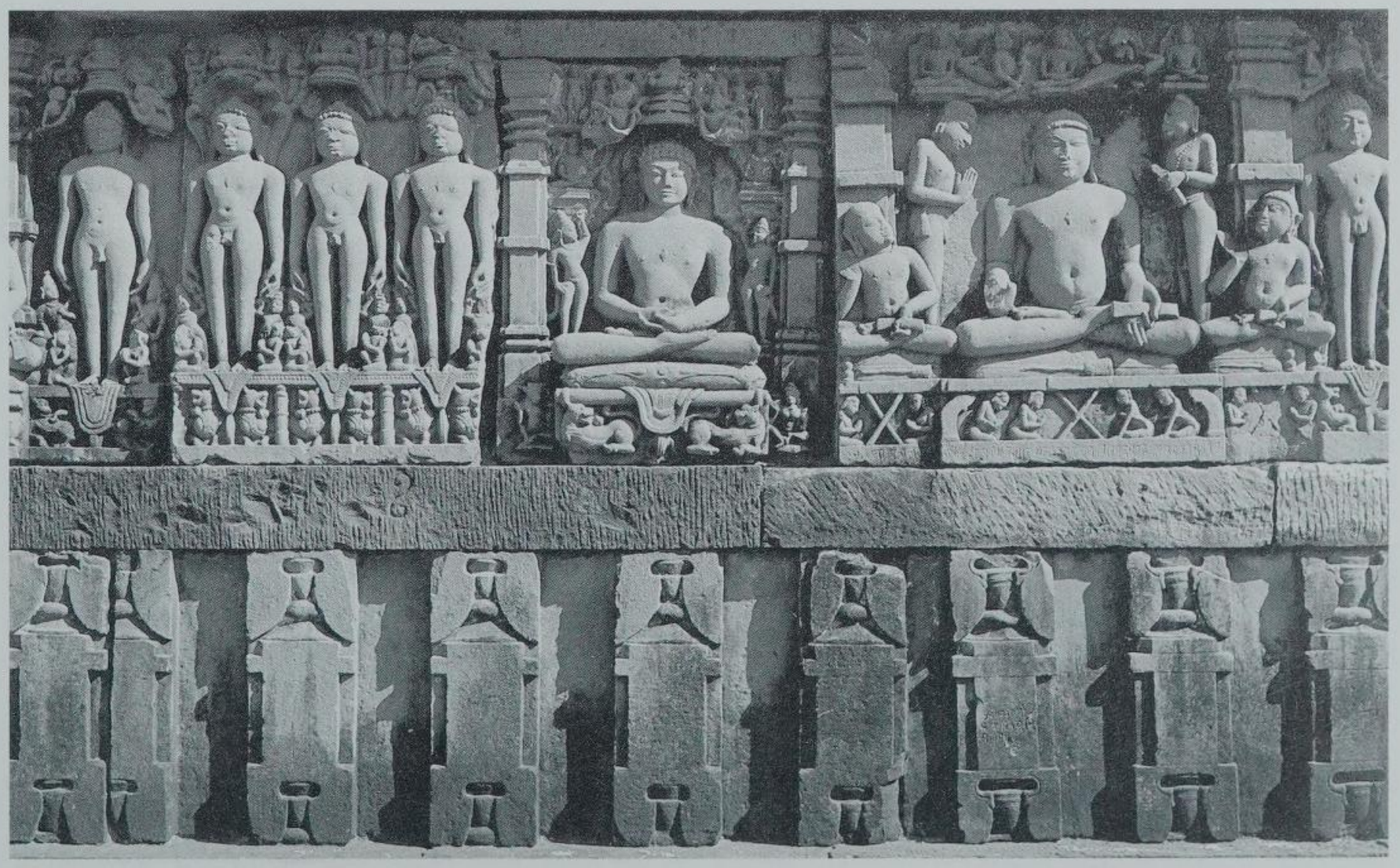
Buddhists Predominant; the Advent of Hinduism

Introduction

Religious Developments

The spirit of opposition to the increasingly abstruse and exclusive sacrificial ritual of the priests of Brahmanism was fostered, as we have seen, in the early republics of outer Madhyadesha. The broad spectrum of alternatives to it developed by ascetics from Upanishadic premises ranged from the absolute predestination of the Ajivika sect to the total materialism of the Charvakas but the most important were the compassionate, yet puritanical, teachings of the Mahavira and the Buddha – both of whom, significantly, emerged from republican tribes and initially found their major support in the republics.

The revelation of the 'Way of the Conquerors' (*jinas*) – followed by the Jainas in the 6th century B.C. – is credited to Vardhamana, son of Siddhartha, chief of the Jnatrika clan. About 510 B.C., towards the age of 30, he renounced his family and became a *sannyasin* associating with the Nirgrantha sect of ascetics, whose name his own followers later took. After thirteen years of wandering and privation, completely destitute even of clothing, he achieved enlightenment and became a *jina*. The Mahavira ('Great Hero') to his converts, he spent the rest of his life in the Ganges valley proclaiming his ascetic doctrine concerned with the preservation of the intrinsically blissful soul through the renunciation of violent action.



11. Deogarh, Jaina temple remains: Mahavira and *jinas*.

The universe, motivated by the interaction of souls, passes through an infinite series of cycles in which progress and decline are marked by the appearance at regular intervals of twelve 'Righteous Conquerors of the Four Corners' (*Chakravartins*) and twenty-four guides to their way. These are the 'Ford-makers' (*Tirthankaras*) of which Mahavira was the twenty-fourth of our aeon and Parshva, the founder of the Nirgrantha sect, the twenty-third.[1]

The Buddha is identified with Siddhartha Gautama, born between 620 and 560 B.C. to Suddhodhana, a chief of the Shakya clan whose domain is usually located in the Rummindei district of southern Nepal. Like the Mahavira he renounced his birthright for the privations of an ascetic existence in quest of release from the cruel cycle of transmigration. He rejected the counsels of the *brahmins*, on the one hand, and the extreme asceticism of the most radical heterodox sects, on the other, but achieved Enlightenment in the recognition
1 of 'Four Noble Truths' under the *bodhi* tree of a renowned *yaksha* in a grove near Gaya: this world was worthless, ignorance must be eliminated and vain craving renounced through yoga and the true way to salvation was the 'Middle Path' between self-indulgence and self-mortification.[2]

The Buddha long deliberated with himself on the possibility of communicating his Enlightenment to others but ultimately expounded the 'Four Noble Truths' to his erstwhile companions in privation in the Deer Park outside Kashi (Varanasi) now called Sarnath. His audience was at once converted and formed the nucleus of his order of monks (*Sangha*). For the rest of his life the Buddha travelled continuously throughout the Ganges basin preaching his doctrine to all, irrespective of caste. The *Sangha* rapidly expanded and so too did the ranks of its lay associates which ultimately included at least two rulers and a large proportion of the wealthy middle class.

The Buddha – Shakyamuni, the Sage of the Shakyas – 'passed away' (*Mahaparinirvana*) at the age of eighty at Kushinagara and his body was cremated by the Mallas there. Prevailed upon to share the remains with the Shakyas, Koliyas and other interested parties, including the King of Magadha, the Mallas are reputed to have divided the ashes into eight parts, each of which was enshrined by its recipient in a tumulus (*stupa*). Two further *stupas* were erected by late claimants who received the urn in which the ashes had been collected and the embers. These ten shrines, together with the sites of major events in the Buddha's career – especially his birth at Lumbini, his Enlightenment at Gaya, his first sermon at Sarnath and his *Mahaparinirvana* at Kushinagara – became the principal places of Buddhist pilgrimage.

The Buddha made no supernatural claims, indeed he denied the idea of eternal soul, yet his followers could believe him no ordinary man. The main stages of his career were soon seen as miraculous and the devotion to the memory of a great teacher was well on the way to becoming the worship of a transcendent being. When his transformation took place is an open question but the impulse came first from the lay followers rather than the ordained members of the *Sangha* and the way was prepared by dissension amongst the monks over the status of the laity.

The monks had given up all for the Buddha's way and their path was prescribed. The laity, on the other hand, still encumbered by the concerns of the world, were initially considered not to have fulfilled the condition for salvation and seemed destined for transmigration. However, seeing ambiguity in their teacher's attitude to the continuity of soul, they and their anti-clerical sympathizers within the *Sangha* were readily convinced that the essentially compassionate Buddha had promised rebirth in heaven to those with love for, and faith in him. Rivalry within the *Sangha* had produced factions, the Mahasanghika and the radical Sarvastivadins in particular espousing the popular cause against the entrenched power of the orthodox Theravadins. Contrary to the claims of the monks, as an alternative to the yoga a religious means to salvation was derived from the traditional idea of merit, the wages of former deeds (*karma*) accumulated to ensure well being in a future existence. The traditional way was through the provision of alms but the Buddha is supposed to have sanctioned the provision of shelter and even the veneration of *chaityas*. Absorbing and adapting the age-old popular cult of *yakshas*, this was the key to the success of Buddhism.[3]

Beyond the everyday sustenance provided by the laity, rich patrons endowed the *Sangha* with estates for sanctuary during the rainy season. On these, the sites of the first monastic establishments, early reliefs show thatched huts loosely grouped around open communal space after the established pattern of the *ashrama* – the community of ascetics common to all sects. It was doubtless not long before the rich provided more substantial residential blocks (*viharas*) and shrine buildings (*chaitya-grihas*). Indeed the traces of four long apsidal halls at a site near Rajagriha may be identified with a monastery supposed to have been founded in the Buddha's lifetime and known as the Jivakamravana. A relief from Bharhut, the 'Palace of the Gods', shows the *vihara* as a multi-storey *prasada* and the attached shrine as a canopy-like *chattri*. Emphasizing teaching and distinguishing between lay followers and the monks, the Buddhists also needed congregational halls inside and outside the monastic enclosure. Doubtless modelled on the age-old form of the village meeting house, the reliefs show them as open pillared pavilions (*mandapas*) sheltering a *chaitya*. The traditional method of venerating a *chaitya* was circumambulation in a clockwise direction (*pradakshina*). Thus an ambulatory (*pradakshina patha*) was surrounded by railings like those of the Vedic sacred enclosure (*vedika*) and sheltered by broad eaves or a lean-to verandah.

The most venerable *chaityas* were the *stupas* containing

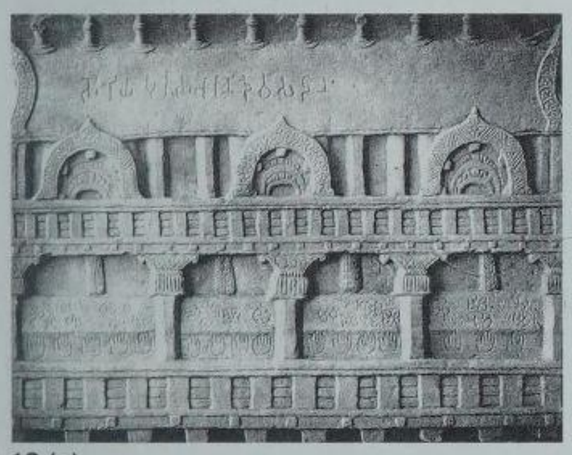
12 (a)

12 (b)

12 (c)

12. Bharhut, Mahastupa reliefs, early Buddhist buildings and symbols: **(a)** primitive monastery; **(b)** 'Palace of the Gods' with shrine (*chaitya griha*) for 'Three Jewels' (*Triratna*) symbol and residential block (*vihara*); **(c)** shrine with 'Seat of Enlightenment' (*Vajrasana*) and hall elevation; **(d)** *stupa* under veneration; **(e)** Promenade (*Chankama*) shrine at Bodh Gaya with the footprints of Buddha; **(f)** Shrine with wheel of the law, (*Dharmachakra*).

12 (d)


12 (e)

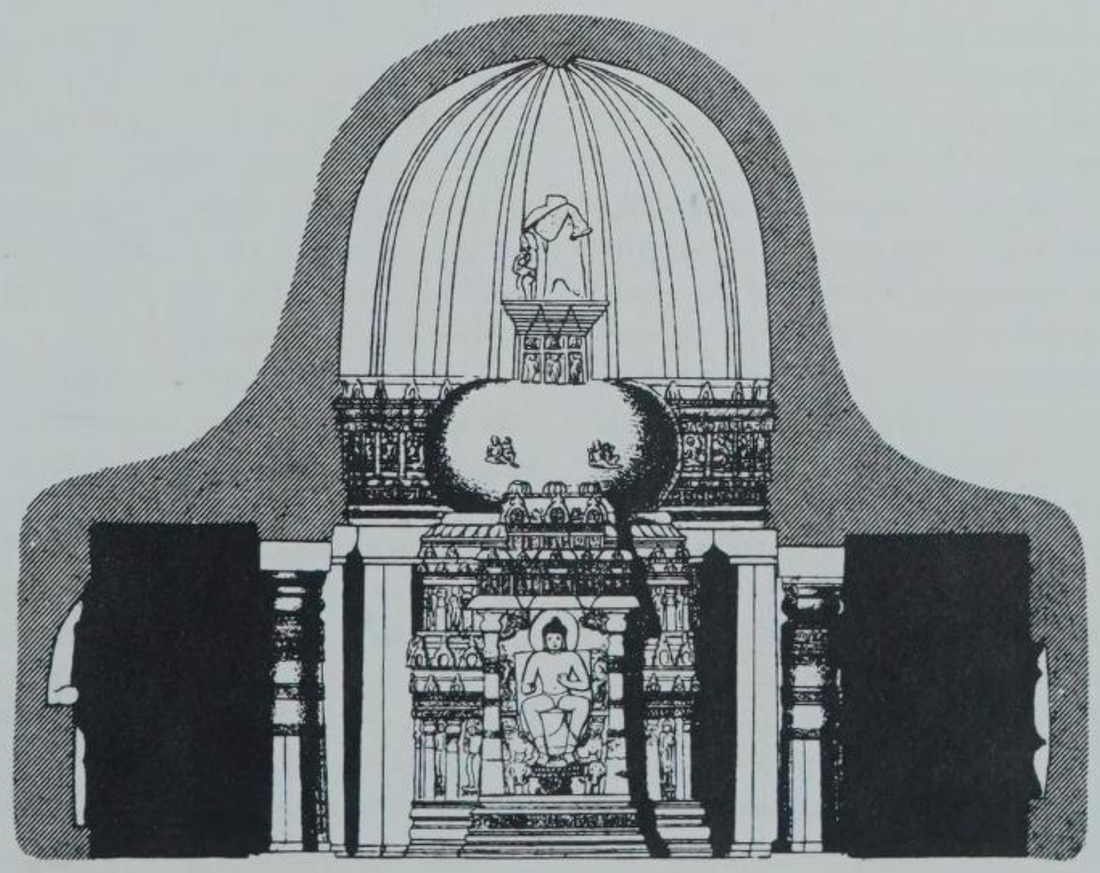
12 (f)

the Buddha's relics and – significantly – the sacred trees at Lumbini, Gaya, Sarnath and Kushinagara under which he was born, attained Enlightenment, preached and died. In addition to these great *chaityas*, the early reliefs show veneration of a number of symbols: the empty seat of Enlightenment (*Vajrasana* – the *veyaddi* of the resident *yaksha*); the Buddha's footprints and promenade of meditation (*Chankama*), the Wheel of the Law (*Dharmachakra*) and the creed's 'Three Jewels', the Buddha, the *Dharma* and the *Sangha* (*Triratna*). Beside their *vedikas*, as places of sacred significance the most important Buddhist *chaityas* were accompanied by a pole (*skambha*) with animal device recalling the Vedic *yupa* and marking the synthesis of the Vedic and Native traditions.

The 'Great Transformation' in Buddhism was accelerated from the 3rd century B.C. under the impact of several waves of eclectic and tolerant foreign invaders who, as we shall see, passed into India through Hellenized Iran. In the face of the exclusive caste laws of Brahmanism, the heterodox sects naturally appealed to them, and the prosperity which their regimes ultimately fostered favoured the merchants who swelled the ranks of the Buddhist laity – and the power of the anti-clerical party within the *Sangha*. Under the patronage of the former, the latter elaborated their popular, theistic alternative to the aspirations of the monk to *Nirvana* through yoga – and they called the alternative approaches *Mahayana* and *Hinayana* (the Great and Small Vehicles).

Beyond our aeon and its Buddha, the heterodox schools postulated that there had been, and would be, other aeons with other Buddhas in the infinite cyclical process of existence. The cycle was propelled by 'Primal Essence' (*Dharma*, analogous to the Upanishadic Brahman) and Buddhas were emanations of that 'Primal Essence' – Shakyamuni had been the fourth in our aeon and there would be a fifth, Maitreya. Moreover if Siddhartha Gautama had not been the unique Buddha, if others had aspired to Buddhahood, all might do so and as compassion was at the heart of the Buddhist ideal some aspirants would surely renounce their goal to take on the suffering of the devoted. These beings 'whose essence is Enlightenment' are *bodhisattvas*. With faith in the power of the compassionate spirit to break the cycle of transmigration on the devotee's behalf, not simply in recognition of merit won for himself but through its transference, veneration turned to worship (*puja*). The venerable symbols of the Buddha were supplemented, then supplanted, by shrines sheltering worshipful images of the Buddha and *bodhisattvas* formed after the example set by native *yaksha* cults and under the inspiration of Hellenistic anthropomorphic pantheism.[4]

The post-Upanishadic centuries of vicissitude during which the Mahayana developed had a parallel effect on Brahmanism itself and the success of Buddhism prompted a reform movement from within. Rejecting the claims of the Vedic priest and his abstruse mystical sacrifice, but inspired by the native holy itinerant, the most progressive minds sought liberation through meditation aided by severe, still mystical, discipline and the life of the ascetic. But liberation was remote from the popular level and the masses, committed to the ideas of the cycle of transmigration and the wages of former deeds, sought more immediate comfort from the hope offered in later Upanishadic thought, particularly the *Bhagavad-Gita*, that divine grace could be invoked through


13. Ajanta XXVI: Buddha enthroned.

devotion to a personal god. In a process parallel to the demotion of yoga and the eclipse of the monk in Buddhism, well before the end of the 1st millennium B.C. sacrifice had receded in importance before the growing belief in the efficacy of worship (*puja*). In the synthesis of late Vedism and native popularism, many lesser Vedic gods were endowed with the properties of native fertility deities but Pashupati-Rudra and Vasudeva-Vishnu emerged predominant from the syncretic process.

The fearsome Rudra, once attendant upon, but constrainer of, Yama was open to propitiation – hence his epithet Shiva. He was associated with the remote fertility deity Pashupati whose ancestry seems to derive from the Indus valley. Significantly Pashupati-Rudra (Shiva) acquired the phallic
2(c) symbol of the Indus cults (*linga*) and the bull (Nandi) as vehicle. The equally obscure Vasudeva was associated with Vishnu, a minor luminary from the circle of Surya. Vasudeva-Vishnu's life-preserving solar attributes complemented those of Rudra. Supplanting Varuna in the central role of the 'Water cosmology', he acquired the conch and the man-eagle Garuda as vehicle.

Together with the personification of the Purusha, Prajapati who embraced Brahman as Brahma, Vishnu and Shiva were to form a trinity governing the cycle of creation, preservation and destruction. A crucial element in the synthesis was the cult of the *shakti* the consort and activator of the deity, clearly deriving from the age-old cult of the Mother Goddess as the feminine power of fertility and abundance which we have already seen in the imagery of Varuna's *yakshas* and *yakshinis* – and in the Sacrifice of the Purusha.[5]

The Pattern of Patronage

The republics in which the Buddha and Mahavira had first found favour were sorely pressed by the time of the mature ministry of both sages. By the end of the 6th century B.C. King Bimbisara of Magadha and his son Ajatashatru, ruling from Pataliputra, had established the first great empire in India by extending their sway over most of the Ganges basin. Magadha's rise may have been viewed with foreboding by the heterodox fraternities in the neighbouring republics but Bimbisara changed the pattern of patronage by espousing the Buddhist cause. The power of Magadha was not seriously undermined even by Ajatashatru's weak successors and firm foundations remained for the successive usurpers Mahapadma Nanda and Chandragupta Maurya to build upon in the next century.

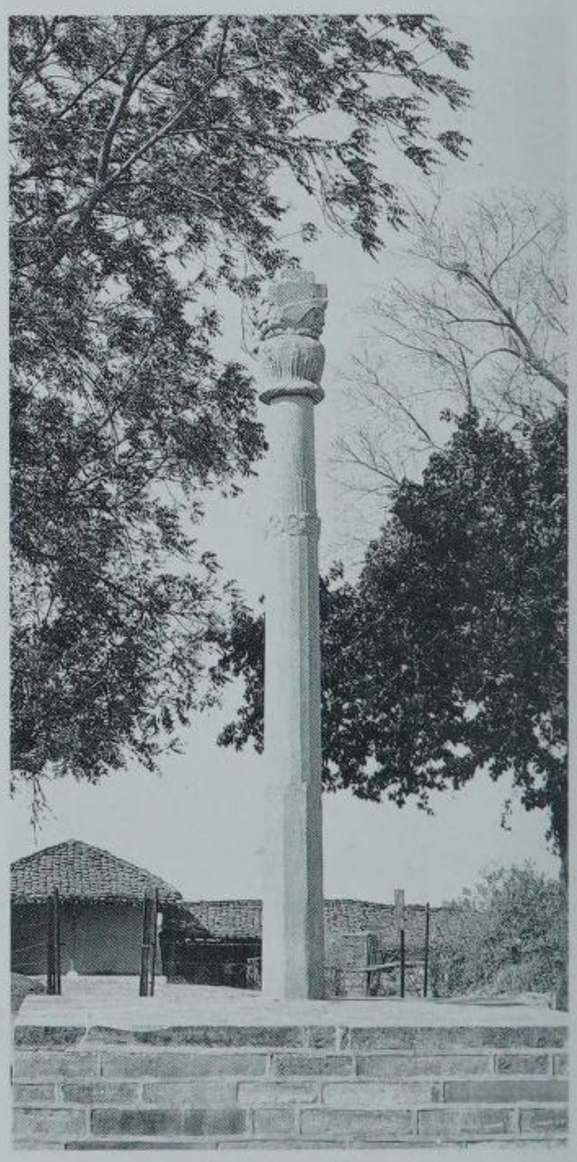
On his advent about 320 B.C. Chandragupta's first task was to come to terms with the heirs of Alexander of Macedon who had pressed his conquest of the great Achaemenid empire across the Hindu Kush in 327 B.C. His followers had refused to go further: his rapid departure and untimely death in 323 left a power vacuum in the area which his general, Seleucus Nikator was striving to fill. Beyond this, the Macedonians' penetration into India had had little effect, though some of them settled in the major towns of the area and a Greek kingdom established in neighbouring Bactria was a source from which Hellenistic influence was later to be transmitted.

Inheriting a formidable army, Chandragupta was able to expel the Greeks from the former eastern possessions and client states of the Achaemenids and his control over Gandhara and the Punjab was recognized by Alexander's Seleucid successors. On this basis, backed by a sound economy and efficient administration the Mauryas consolidated their control over the whole of north India. Chandragupta's son Bindusara extended Mauryan control well into the Deccan and his grandson Ashoka (c. 270-232) took the Indian empire to its greatest extent. He conquered Kalinga (modern Orissa and parts of Andhra) and established close relations with, if not direct rule over, the Cholas, Pandyas and Cheras of the extreme south. To assert his authority, Ashoka had edicts carved on rocks throughout his vast domains – like the King of Kings at Behistum. Rather than cataloguing conquests, these were primarily concerned with defining the order (*dharma*) of his state and one of them declares that the emperor embraced Buddhism and its creed of non-violence in expiation for the carnage caused by the conquest of Kalinga.

Ashoka is credited with having disinterred the remains of the Buddha from their original ten *stupas* for redistribution and reinterment in new *stupas* throughout the empire. By many of the new *stupas* he erected pillars (*stambha*) inscribed sometimes with exhortation against faction in the *Sangha*, sometimes with messages of wider implication, supporting devices of Buddhist and imperial symbolism. This well characterized Ashoka's enlightened despotism, designed to inspire social responsibility in the interest of mutual well-being amongst his disparate peoples and they certainly prospered with the security brought by an efficient and powerful regime. As we shall see, the form of Ashoka's columns reflects the complex set of cultural relationships with Persia and the Hellenistic West which were now being reinforced on the economic plane.[6]

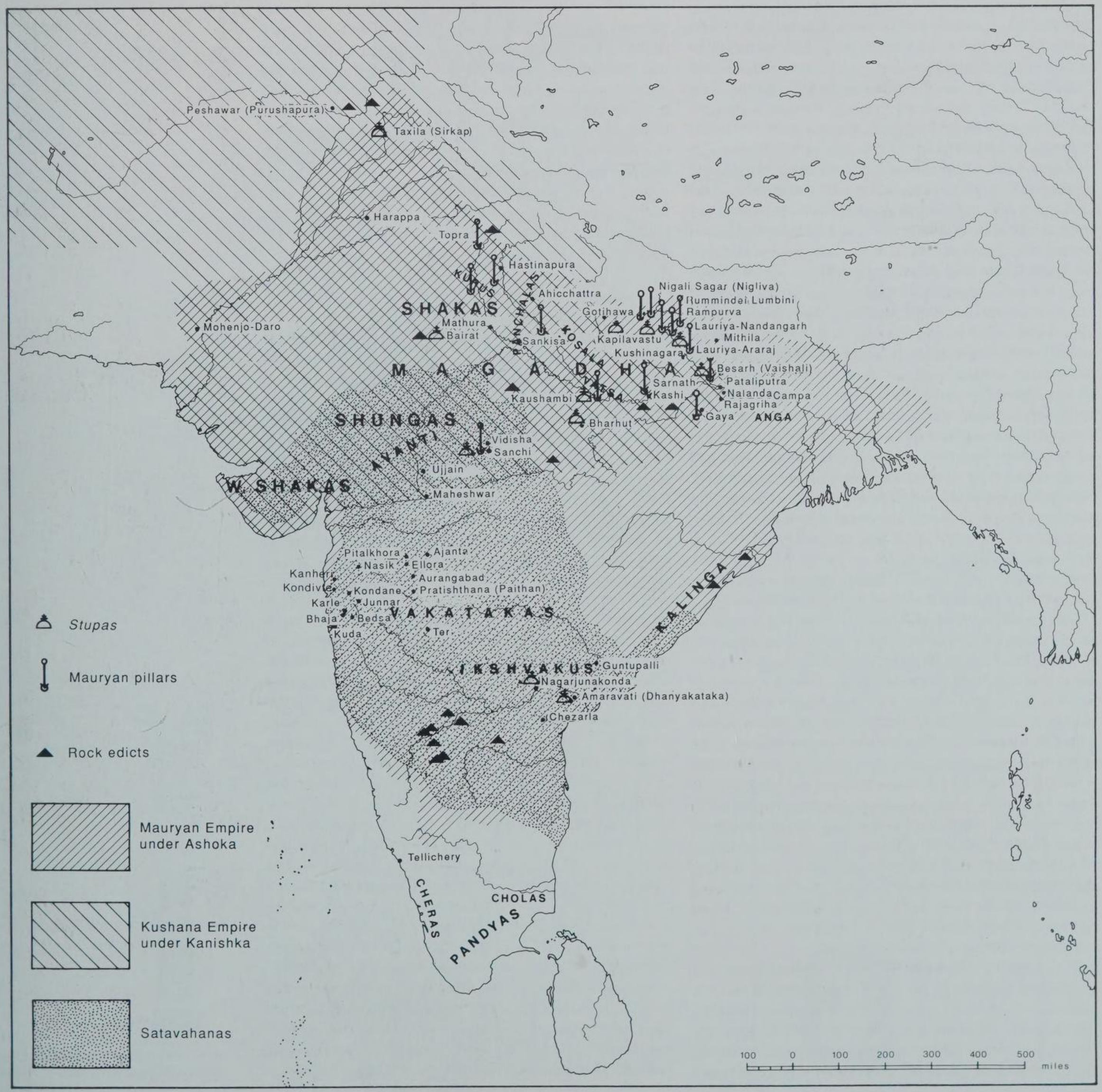
Important as the *dharma* was, the force of the personality behind it was even more important. Ashoka's weak successors were unable to preserve unity, especially as the vast cost of maintaining the empire in more traditional ways undermined the economy. About 187 B.C. the last of them, reduced to the Ganges valley, was despatched by his Brahmanical general, Pushyamitra, who founded the Shunga dynasty. Continually at war with rival successors to Mauryan power – resurgent Kalinga under the Jaina king Kharavela being amongst the more important – they maintained tenuous sway over a limited and essentially feudal domain ultimately centred on Vidisha, near Sanchi in old Avanti (Malwa)

14. Kalanjar fort, cave shrine: *linga* of Pashupati-Shiva.



15. Besnagar, Heliodorus column: Garuda of Vasudeva-Vishnu.

16. India: 4th century B.C. – 5th century A.D.


Peshawar (Purushapura)
Taxila (Sirkap)
Harappa
Topra
Hastinapura
KURUS
PANCHALAS
SHAKAS
Ahicchattra
Mohenjo-Daro
Mathura
Bairat
Sankisa
KOSALA
Nigali Sagar (Nigliva)
Rummindei Lumbini
Rampurva
Gotihawa
Lauriya-Nandangarh
Mithila
Kapilavastu
Lauriya-Araraj
Kushinagara
MAGADHA
Besarh (Vaishali)
Sarnath
Pataliputra
Kashi
Nalanda
Campa
Rajagriha
Gaya
ANGA
Kaushambi
VATSA
Bharhut
SHUNGAS
AVANTI
Vidisha
Sanchi
Ujjain
W. SHAKAS
Maheshwar
Pitalkhora
Ajanta
Nasik
Ellora
Kanheri
Aurangabad
Kondivte
Kondane
Pratishthana (Paithan)
Karle
Junnar
Bhaja
Bedsa
VAKATAKAS
Kuda
Ter
KALINGA
IKSHVAKUS
Guntupalli
Nagarjunakonda
Amaravati (Dhanyakataka)
Chezarla
Tellichery
CHERAS
CHOLAS
PANDYAS
Stupas
Mauryan pillars
Rock edicts
Mauryan Empire under Ashoka
Kushana Empire under Kanishka
Satavahanas
100 0 100 200 300 400 500
miles

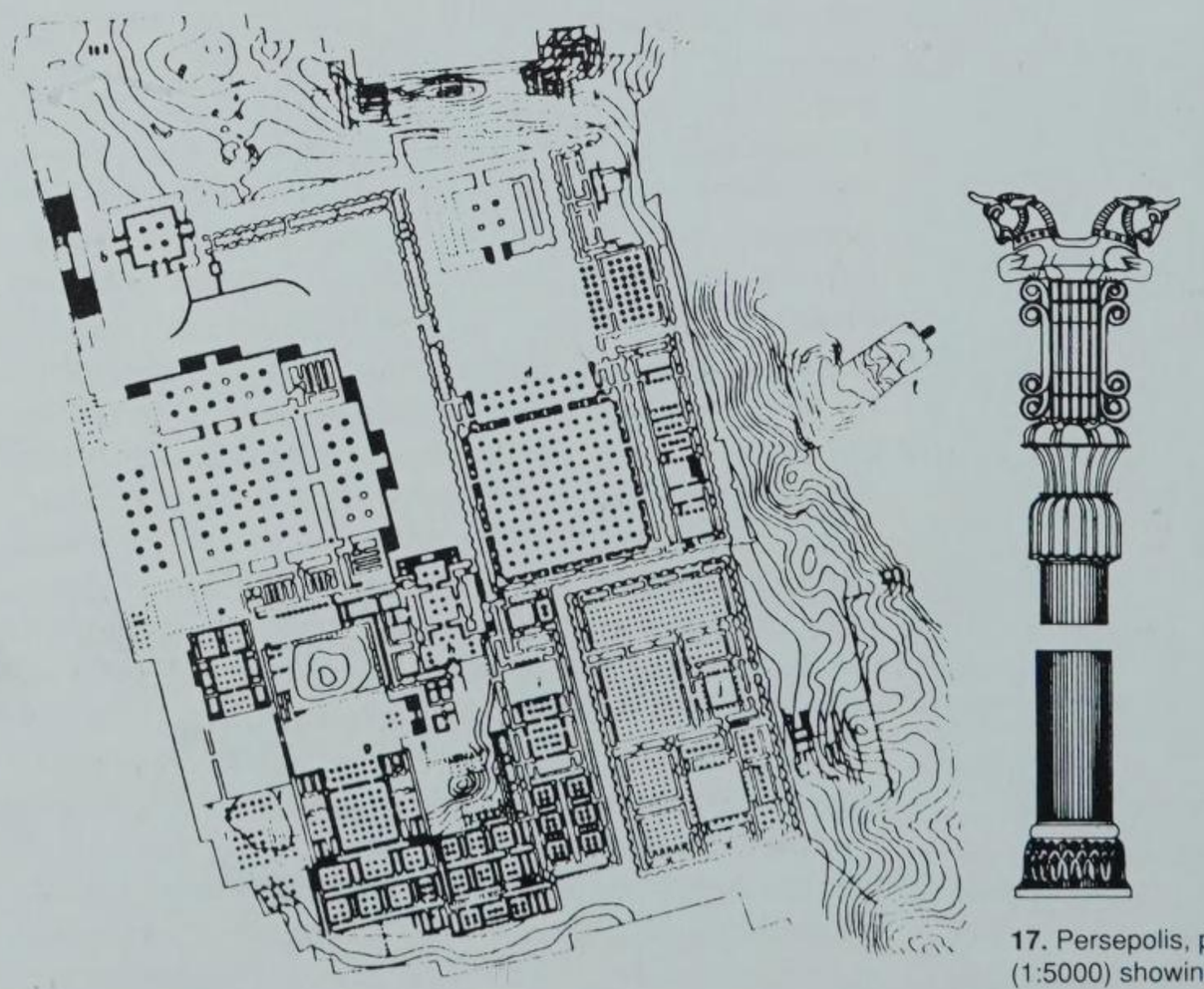
Before Pushyamitra, the Mauryans had lost Gandhara to Bactria whose Greek rulers, independent from the Seleucids by the middle of the 3rd century B.C., maintained close cultural relations with the West – as their superb coinage demonstrates. By the mid 2nd century they had gained Surat and the Punjab and struck far into Madhyadesha but, weakened by internal struggles, Bactria itself fell to the Parthians. In the first half of the last century B.C. Parthia was overrun by hordes from central Asia who variously extended their sway through Gandhara into north-west India. First amongst them were the Scythians, who borrowed the institutions and arts of the Bactrians without real understanding of Hellenistic civilization. By the end of the 1st century B.C. the Shakas, as the Scythians were called in India, had been displaced in Gandhara by the rebel Parthian Gondophanes but his Pahlava dynasty was despatched by the second major horde, the Yueh-chi, whose Kushana dynasty controlled most of central Asia. They pushed the remnants of the Shakas south into Gujarat and Malwa and had won the whole of north India as far as Kashi and Sanchi by the time of the accession of their greatest monarch, Kanishka. With capitals at Purushapura (Peshawar) and Mathura the dynasty held sway until the resurgent Persia of the Sasanians reduced it to vassalage on their conquest of Gandhara towards the middle of the 3rd century A.D. The Kushanas of Bactria, forced south-west by further hordes, reconquered Gandhara in the late-4th century and ruled in north-west India until overcome by the White Huns in the second half of the 5th century. The Kushanas remained an inspiration to would-be emperors in India for centuries.[7]

The commercial developments and trade contacts fostered by the earlier Mauryas prospered once more under the invaders. The Kushanas controlled much of the great trade route which linked India to Persia and the Roman empire on the one hand, to China on the other, and the displaced Shakas developed ports on the west coast to service the sea routes from Arabia and Egypt. Indian merchants were quick to see the advantages of acting as middlemen and the boom in mercantile activity promoted those associated with it – traders and artisans, organized in guilds of no mean political importance and supporting the heterodox cults in opposition to Brahmanism. As we have seen, while maintaining various other faiths which they had acquired on their way to India, the invaders were markedly tolerant towards Buddhism, especially as the rigid caste laws of Brahmanism made access to Indian society difficult. Kanishka, indeed, was Buddhism's greatest patron after Ashoka.

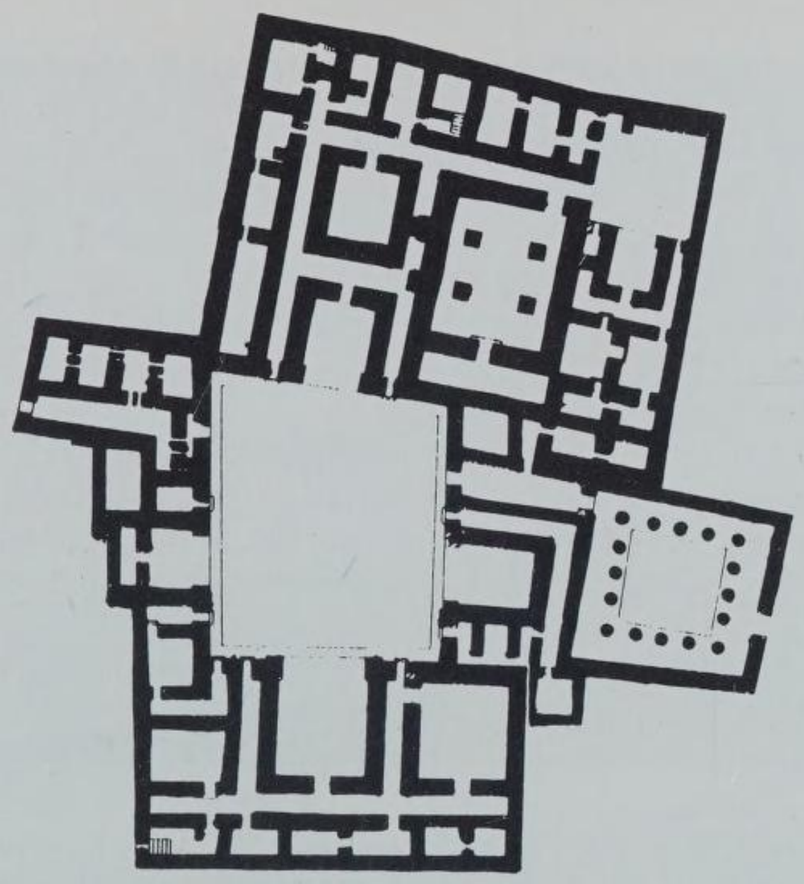
While the North-West was the prey to external forces, the South-Centre was harassed by the indigenous Andhra. Their leaders, the Satavahanas, probably turned provincial responsibility under the later Mauryas into autonomy and then to dominion around Paithan in the north-west Deccan late in the 2nd century B.C. By c. 150 B.C. they had halted the southward expansion of Kharavela of Kalinga in the East but had limited success in the West against a resurgent branch of the Shakas led by the 'Kshatrapas' (Satraps) who had won Gujarat and sought control over the Arabian Sea trade. The Kshatrapas ultimately pushed them from their northern provinces but from a new capital, Dhanyakataka (Amaravati) they asserted their predominance south of the Vindhyas and secured an accord with the Cholas who had eclipsed the Pandyas in the south. After a brief resurgence against the Kshatrapas late in the 2nd century A.D. they ceded power rapidly to former subordinates, notably the Hindu Ikshvakus in the Andhradesha and the Vakatakas in the Deccan.[8]

Architectural Background

If the religious developments we have traced – and the building forms which emerged along with them – were of native inspiration, for Magadha in the ascendant, Achaemenid Persia was to hand as the secular model for empire. Persian craftsmen might well have sought employment at the Mauryan court following the extinction of Achaemenid patronage and they seem to have provided the setting for the daily round of royal duties and the ceremonial that clothed them. Apprised of the need to maintain direct touch with the people as well as to retain the most astute of his subjects for his council of ministers, the king's daily round devoted the mornings to public audience, with private audience following as the occasion required. The provision of distinct facilities for



17. Persepolis, palace platform: plan (1:5000) showing *apadanas*; column inse



18. Ashur, palace: plan (1:1000) of palace court showing *iwans*.

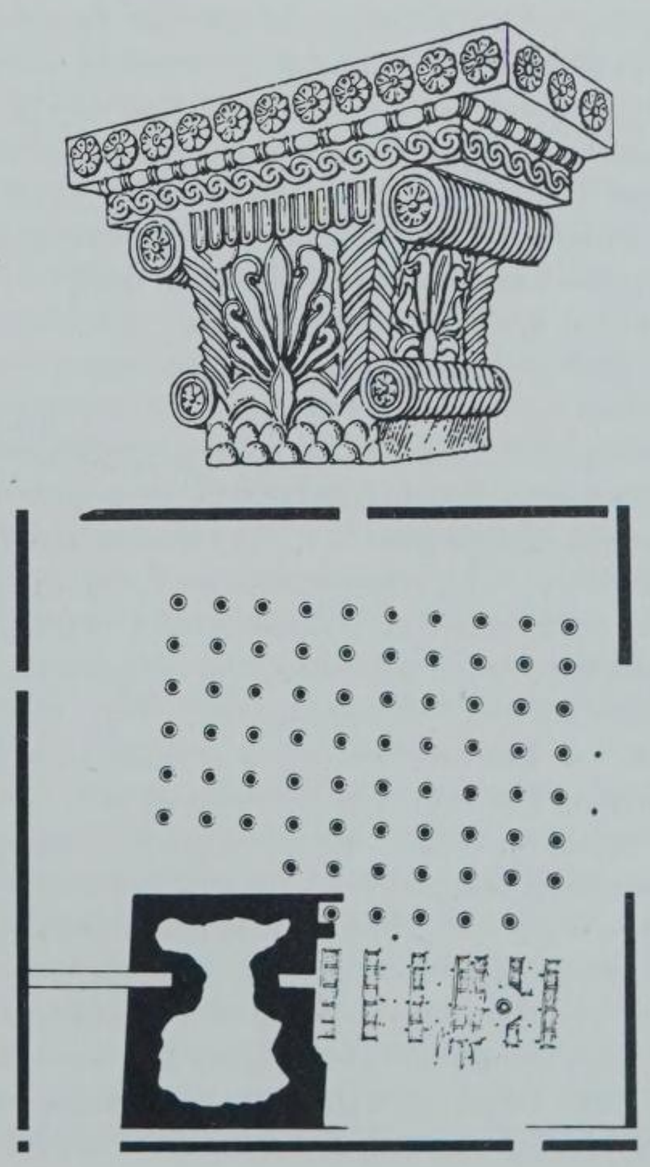
these in appropriate relationship to the royal apartments had been the concern of Persian architects from the first days of the Achaemenids. It was to be, equally, the concern of two millennia of Indian architects.[9]

The Achaemenids were essentially eclectic, drawing architectural inspiration from all their major western dominions – their hypostyle hall (*apadana*), for instance, derives from Egypt, their 'order' combines Egyptian, Uratian and Ionic elements.[10] Alexander's conquest of Persia opened the way for the introduction of a much more pervasive Hellenism. Apart from idealizing naturalism in the representation of the human figure, the Classical Orders and the repertory of Greek ornamental motifs, the limited surviving remains of Seleucid foundations reveal a thoroughgoing concern with symmetry in the distribution of complexes. Far from the Hellenistic source, however, later Seleucid craftsmen produced increasingly debased forms. The Orders, in particular, Achaemenid in their elaboration, became essentially ornamental rather than truly the armature of an intellectual order. To these hybrid forms the Parni, who created Parthia, introduced the *iwan* in the palaces of Nysa and Ashur. A great vaulted space wholly or partially closed on three sides but entirely open to a court, the *iwan* was to supplant the *apadana* as the dominant element in Iranian secular architecture.

The Bactrians had introduced a debased Hellenism to north-west India and following them Gandhara was open to the hybrid culture of the Shakas and Parthians. Originating from China but no more cultured than the Shakas had been, the Kushanas perpetuated this. Their coinage, like that of their predecessors, offers eloquent testimony to the basic Hellenism of the civilization they had passed through. The coins also assert a doubtless politically expedient tolerance of local traditions: the images of the king and Hellenistic attributes of secular power share the surfaces with the symbols of virtually every religion known between Egypt and India.

Mauryan Foundations

The Ambassador of Seleucus Nikator to Chandragupta's court, Megesthenes, left a celebrated account of Pataliputra transmitted by later writers: a parallelogram, it was girded by a ditch and a wooden wall with 570 towers and 64 gates; the sumptuous palaces set in gardens and containing a series of hypostyle halls whose columns were decorated in gold and silver, excelled in magnificence the *apadanas* of Susa and Ecbatana. One of these halls is the earliest known stone structure in India, and given Chandragupta's Achaemenid inheritance, it hardly seems coincidental that its remains bear marks like those of Persian masons. Pataliputra's remains, too, indicate that Persian influence extended beyond building technique. The excavations yielded monolithic column shafts, polished in the Persian manner, and a capital like those of structures illustrated in the reliefs of Sanchi and Bharhut but with decorative motifs of West-Asiatic origin long familiar in Persia. The remains of massive timbers from



19. Pataliputra, audience hall: plan (1:1000) of *apadana*; capital from Bulandibagh inset.

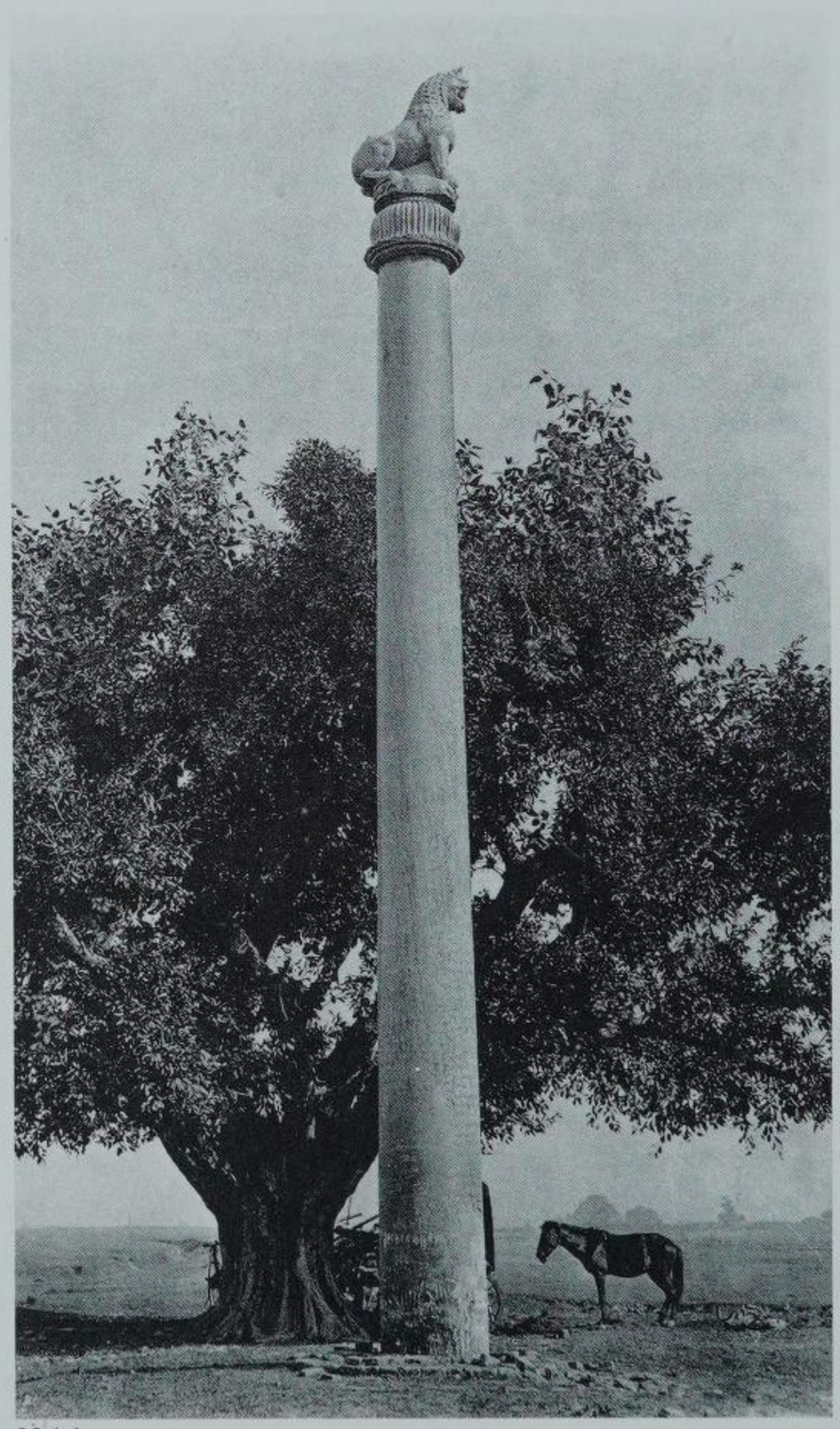
a raft upon which an *apadana* terrace could have been based and from fortifications consistent with those described by Megesthenes, were also uncovered.[11]

More arresting even than the load-bearing columns of Pataliputra are the free-standing symbolic pillars erected by the Mauryas, two of these, commemorating Ashoka's visit to the Buddhist homeland in 257 B.C., are the earliest of India's dated stone monuments. As he proclaimed on them, Ashoka's erected pillars to promulgate his order and thus they had the obvious political purpose of asserting the centralized power of his monarchy. However, as we have seen, Ashoka's order comprehended the prescripts of the Buddha and whether or not he saw Buddhism as a unifying force, the unifying purpose of his pillars depended on the essentially religious significance
4 of their age-old form, familiar to all his subjects: Indra's pole (*yashti*), the Axis Mundi (*skambha*) associated with Vedic and native shrines, the standard of kingship (*dhvaja*). Further, however, the syncretism at the heart of the Ashokan ideal is apparent in their embellishment with indigenous and imported symbols of royalty, with specifically Buddhist symbols and with symbols relating to India's most ancient native tradition, centred on Indra's great predecessor and rival Varuna – the 'Water Cosmology'.[12]

Of the forty or so pillars thought to have existed, the remains of twenty have been identified. Only two survive complete and *in situ* – at Besarh (ancient Vaishali) and Lauriya-Nandangarh in Bihar – but essential fragments from five or six others demonstrate that in general the composition of these two was typical. Originally surrounded by *vedika* and *pradakshina-patha* but without visible bases, an unfluted shaft rose directly from water-logged ground – presumably in accordance with *yashti* symbolism – to a tassel-like cap and an abacus surmounted by an animal device. In several cases, including the two complete ones, the animal is a lion – an imported royal symbol. Surviving capitals with the indigenous bull or elephant are also known not to have been unique. The most magnificent examples, however, are those from Sanchi and Sarnath, both with four lions back-to-back, the latter once surmounted by a *Dharmachakra* and standing on an abacus ringed with symbols of royalty – a bull, an elephant, a lion and a horse separated by chariot wheels. The abacus at Besarh is rectangular and unadorned but all the others are discs decorated with 'Water Cosmology' symbols – in particular the *hamsa* and *padma*, the latter stylized along the lines of the Greek anthemion.

The surviving remains are of sandstone, the exposed surfaces usually polished. The conventional treatment of the tassel-like cap in all surviving examples reveals Persian influence and it seems unlikely that stone construction on the scale of these pillars could have been initiated in India without the experience imported by Persian immigrants. Be this as it may, the free-standing symbolic pillar was to remain a common enough form in India. Amongst the most notable post-Ashokan examples, with an animal device as capital on a faceted shaft festooned with ornament towards the top, is the one we have already encountered at Vidisha erected by 15
Heliodorus, ambassador of a late-2nd century B.C. Bactrian ruler of Gandhara to the Shungan court. However the principal architectural legacy of the translation of the wooden standard into the stone column with Persian guidance was the precedent it set for design in the more familiar context of real or apparent load and support.

The erection of 'Pillars of the Law' was but part of Ashoka's imperial building policy: complementing it was the foundation of *stupas*. The emperor is reputed to have been responsible for a vast number throughout India to enshrine the relics of the Buddha disinterred from the original ten. These were the nucleii of monasteries which flourished not without Ashoka's encouragement of a teaching brotherhood. The most important monasteries, of course, were at the sites of the



20 (a)

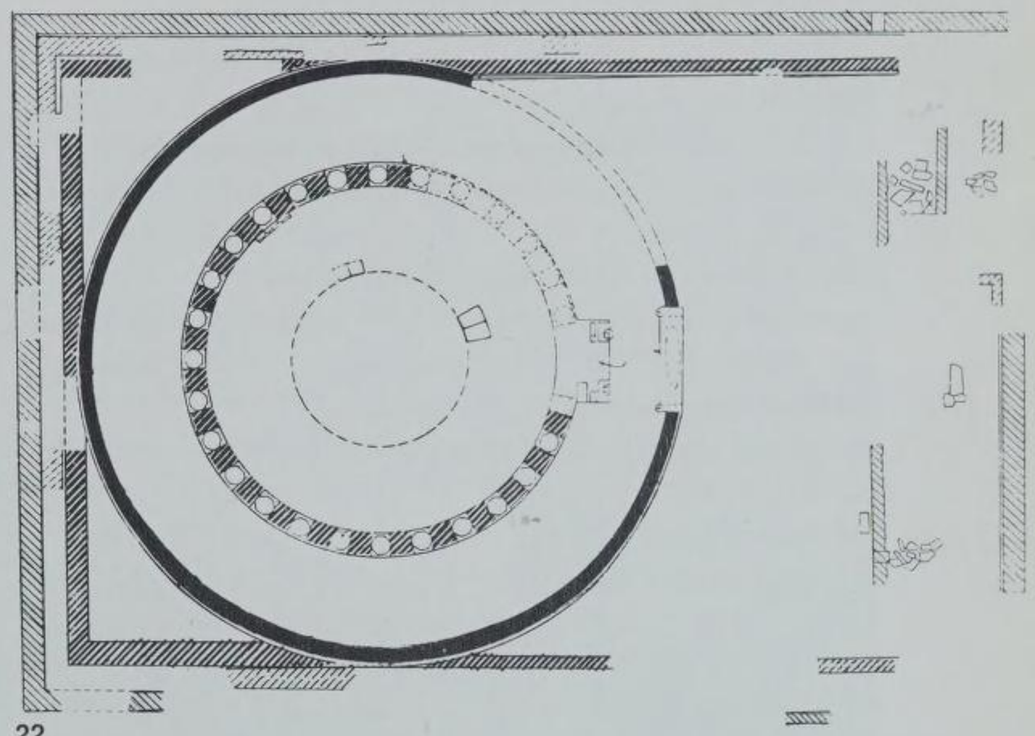
20 (b)

20. Mauryan 'Pillars of the Law': **(a)** Lauriya Nandangarh; **(b)** Sarnath, lion capital.

21. Bharhut, Mahastupa relief: Bodhi-ghara.

22. Bairat, shrine: plan (1:250).

21



22

major events in the Buddha's career and they received other imperial endowments too. At Bodh Gaya, for instance, the 1 Bodhi-ghara was built for the ritual libation of the *bodhi* tree, 13(c) decreed by Ashoka, and the altar-like *Vajrasana* enshrined the Buddha's seat beneath it. The remains of a grand Buddhist shrine uncovered at Bairat, including fragments with Mauryan polish and inscriptions associated with Ashoka, suggest some similarity to the images of the Bodhi-ghara. A ring of at least twenty-seven octagonal wooden columns was later reinforced with brick piers and surrounded by a circular wall beyond a circumambulatory path. There was, presumably, a domical cover over the devotional object, probably a *stupa*. The rectangular enclosure seems to have been a later addition.

Stupa and Monastery

Structures and Excavations under the Mauryas' Successors

The appropriation of age-old forms, making Buddhist monuments immediately appreciable to all Indians, was certainly the key to the success of Ashoka's imperial building campaign but the emperor's role in the evolution of the *stupa* is obscure. This is because most of his works, like their predecessors, have either been lost or were enlarged and embellished under later rulers.

The ubiquitous burial mound referred to in the Vedas and often accompanied by the deceased's standard, seems to have been given its characteristic hemispherical form in India – probably by the Jainas – hardly much earlier than the 6th century B.C. when the Buddha's remains were interred. The earliest datable *stupas* belong to Ashoka's series which replaced the original ten founded following the *Mahaparinirvana*. From the scanty surviving older remains, including the nucleus of a mound at Vaishali which has tentatively been identified as one of the original ten, it appears that the early ones were hardly more than mounds of impacted mud and clay sometimes with shallow projections at the cardinal points.

The centuries between the death of the Buddha and the accession of Ashoka saw the refinement and elaboration of the primitive form and its embellishment with many motifs whose diverse origins range from the secular to the Brahmanical – all, the whole and its parts, acquiring layers of symbolism as the years went by, which have invited endless interpretation by commentators.

References in Ashoka's edicts and fragments of a *harmika* in Mauryan polished *chunar* amongst the remains of the *stupa* at Sarnath, suggest that the canonical form had been approached before Ashoka's death but it is not clear whether, through the general use of durable materials, his was the final achievement of the precision, clarity and strength upon which monumentality depends. The earliest remains of *stupa* embellishment – at Bharhut and Sanchi – date from the period of the Shunga.

A railing (*vedika*) was thrown around the roughly hemispherical mound (*anda*) to define the circumambulatory passage with portals (*toranas*) fixed at the cardinal points in 3 accordance with elaborate metaphysical calculations comparable to those of the vastu-purusha-mandala and arranged in the form of the svastika. The vedika asserted that the stupa, no longer merely commemorative, had become a chaitya, an object of worship symbolic of the Mahaparinirvana. Another vedika at the top of the anda specifically asserted the sacred significance of the cubicle (harmika) and umbrella (chattri) with its mast (yashti) introduced to crown the stupa. The harmika probably initially contained the reliquary. Its protective cover, the chattri, was the honorific parasol due to the royal Siddhartha Gautama.

23. Sanchi, Mahastupa from south-east.

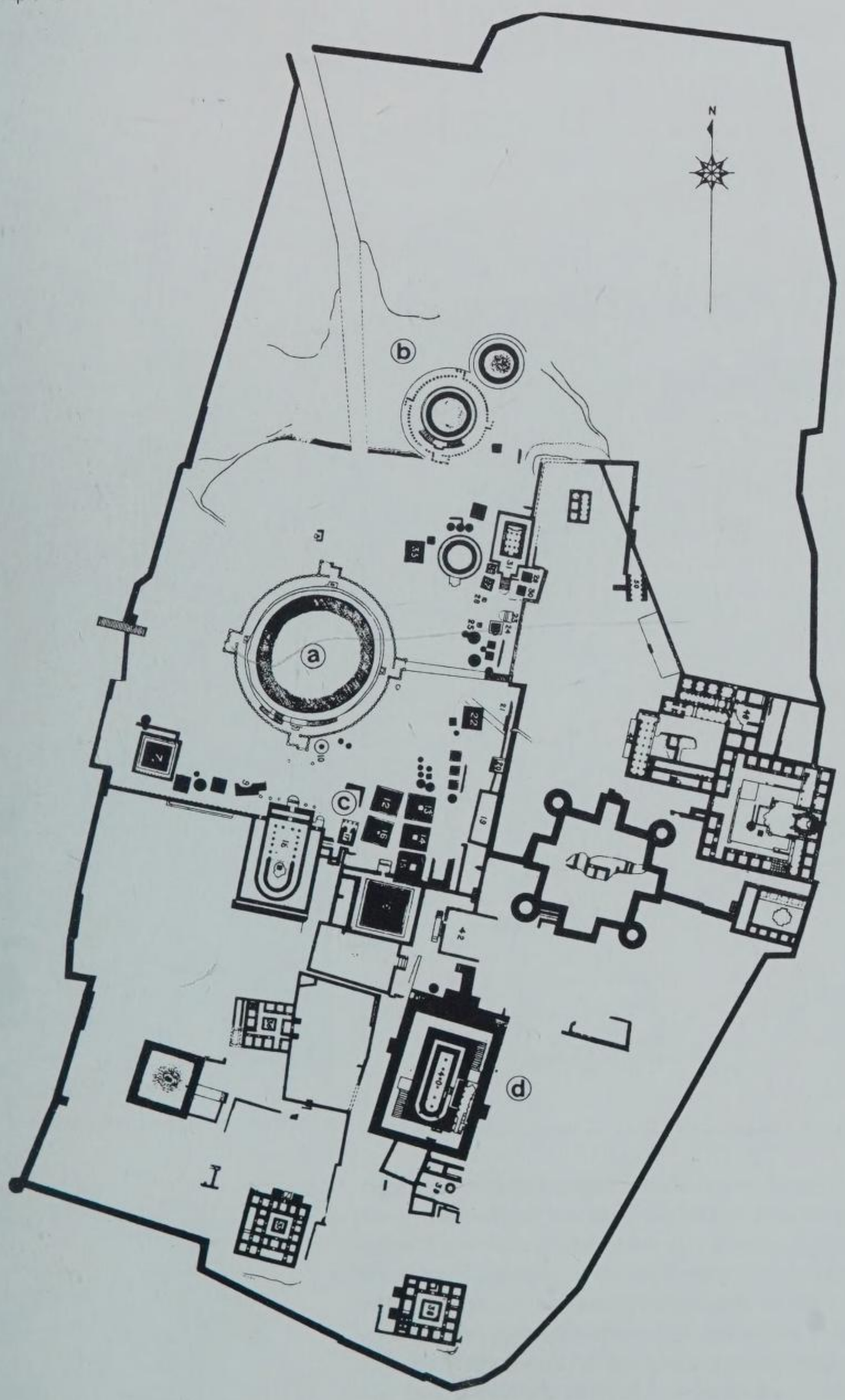
Appropriated to the spiritual king, the Shakyamuni, it received its ultimate significance in superimposed tiers (*chattravali*) as the symbol of *dharma* – the *'chattri* of *chattris'*. Its *yashti* penetrates right to the ground in some of the earlier *stupas* and may be seen as Indra's *skambha*. The *anda* and *chattri*, of course, were circular, the lower *vedika* defined both circle and *svastika*, the upper *vedika* and *harmika* were square and this prompted their endowment with the symbolism of Vedic cosmology.[13]

Perhaps the earliest surviving examples of Shungan structural stonework are the *vedikas* of Stupa II at Sanchi
4 and the Mahastupa at Bharhut. Their relief-encrusted posts (*stambha*), cross-bars (*suchi*) and rail (*ushnisha*), reproducing the timber originals to a monumental scale, break forward at the four cardinal points to screen the entrances. The one at Bharhut was the more lavish of the two. It had at least one monumental *torana* – to the east. Like those depicted before the town gates of Madhyadesha in the early reliefs, this ceremonial structure reflected the wooden prototype of the Vedic enclosure whose primitive portcullis was doubtless also surmounted by symbolic devices. The rich iconographical programme ranged from the Buddhist *Dharmachakra*, *stupa* and *chaitya-griha* to the voluptuous maiden, *makara* and lotus of the 'Water Cosmology'. Apart from the emblematic horseman carrying Indra's *dhvaja*, the *vedika* bears a variety of guardian or fertility figures, including *yakshini*, and medallions with *Jataka* episodes or lotuses.

In the first campaign of embellishment to the Mahastupa (Stupa I) at Sanchi, the hemispherical mound (*anda*) was enlarged to nearly twice its original size over a high drum-like *medhi* and given a plastered brick and stone envelope. The flattened top of the *anda* was crowned with the stone superstructure (*vedika, harmika, yashti,* and *chattravali*). The top of the *medhi* provided a *vedika*-bordered terrace with a double-ramp leading up to it on the south side. The new *vedika* around the greatly expanded circumference at ground level may well post-date the Shunga period. Certainly the four *toranas* are later. A variant of the Mauryan pillar was used at Bharhut but at Sanchi there is no recognizable 3
Order. The splendid elephant capitals and accompanying bracket figures rest on rectangular posts incised, like the curved cross-beams, with the magnificent reliefs depicting *Jataka* stories and episodes from the career of Ashoka, 7; 8; 12
which – like those from Bharhut – provide such valuable information on early building.

If our image of architecture under the Mauryas is dominated by the *stupa* we should not necessarily conclude that the Buddhists alone were active builders. Burial mounds are by

24. Sanchi, plan (1:2000) of monastic site:
(a) Mahastupa; **(b)** Stupa III; **(c)** 'Temple 17';
(d) 'Temple 40' .

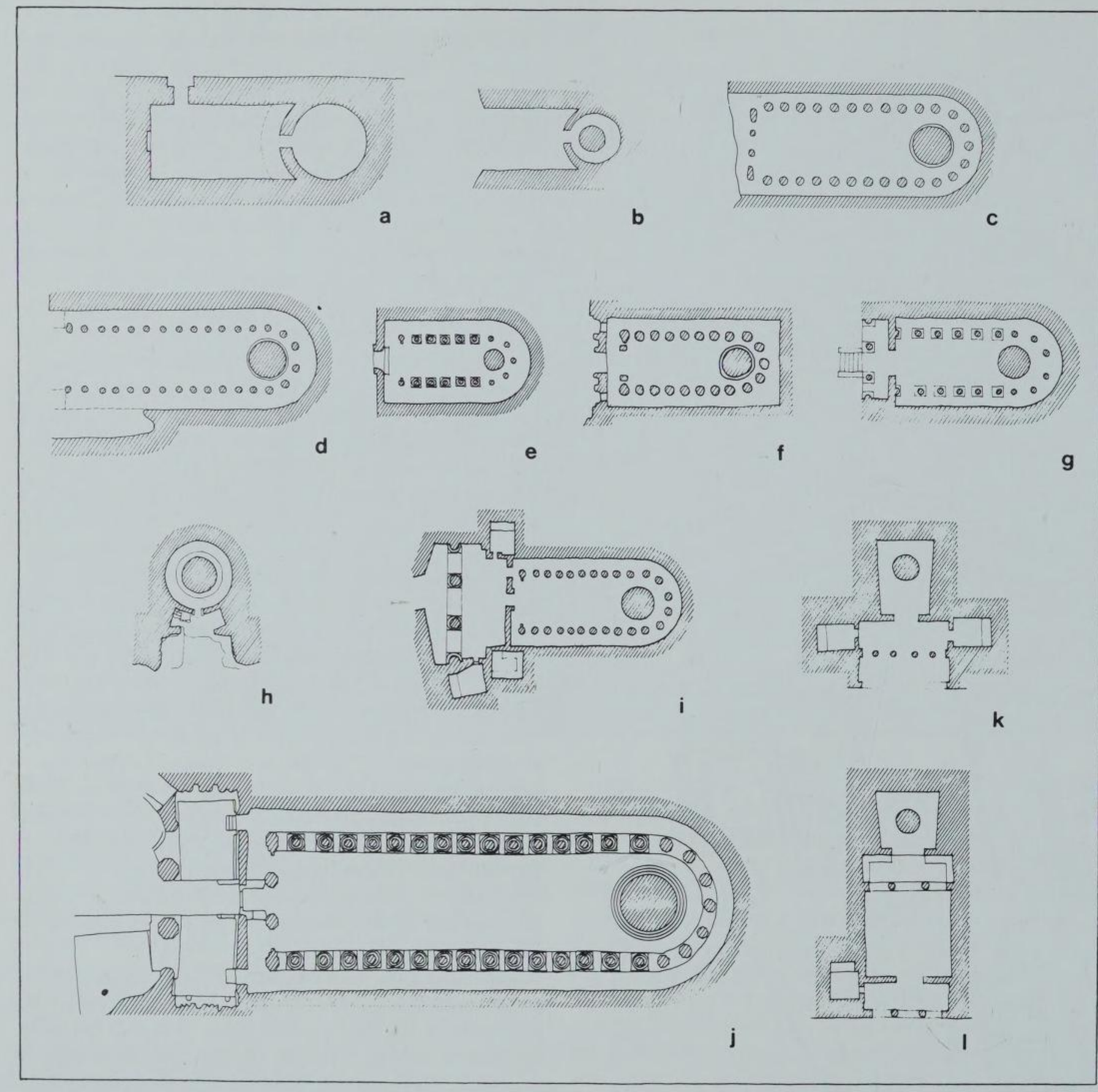


nature durable and though the Buddhists were not unique in India in interring the remains of their dead, Ashoka's patronage made their *stupas* far more common than those of other sects. Moreover Brahmanism, centred on the Sacrifice, did not promote a tradition of monumental building. In adapting the native *yaksha* cult of *chaityas* and in encouraging the veneration of symbols the Buddhists led the way to the development of the monumental shrine. Of these symbols the *stupa* was, of course, a monumental form by its very nature but others – such as the *Vajrasana*, *Chankama*, *Dharmachakra*, *Triratna* – needed the protection, or at least the distinction, of a cover. As we have seen, this initially took the form of a *chattri* carried on posts and early reliefs suggest that the followers of proto-Hindu cults formed shrines in a similar way. The Buddhists had long associated shrines with residential or congregational monastic buildings, of course, and at the monasteries shrine and hall were welded together to form a monumental whole (*chaitya-griha*). 12 22 12(b),(c)

Constantly augmented till the decline of the Mahayana faith nearly one thousand years after Ashoka's original promotion of the Buddha's precepts, little remains above foundation level at the great sites of the Buddhist holyland, the scenes of the principal events in the Buddha's career, except the stumps of the more important *stupas* and the much-restored Mahabodhi Temple at Gaya. Apart from these, some of Ashoka's *stupas* prompted the development of important monasteries near sources of patronage in the main centres of power and commerce. Sanchi, outside the sometime capital city of Vidisha, is a prime example and its remains are amongst the most comprehensive of all the major Buddhist establishments. Around its three large *stupas* are shrines, halls and *viharas* from many periods, including the Mauryan. Probably Shungan, the foundations of 'Temple 40' include the earliest known traces of a structural *chaitya-griha* – a hall, rectangular outside, but with an apse for the veneration of the object inside. 5

Soon after their imperial patrons had inaugurated the Indian tradition of monumental masonry, but well before the acquisition of the skill to erect stone structures enclosing appreciable space, monks of various sects sought permanence for their *chaitya-grihas* and *viharas* by carving them from the living rock. The history of the development of rock-cut architecture goes well beyond the confines of this chapter but the Mauryan examples of the type, plain, in keeping with orthodox austerity, reveal an interest in the integration of elements doubtless characteristic of the contemporary structural work whose forms are so faithfully reproduced in the rock.

Of several early rock-cut sanctuaries found throughout India – from Barabar north of Gaya to Tellicheri in Kerala, from the Western Ghats near modern Bombay to Guntupalli on the lower Krishna – the earliest datable ones were carved for the Ajivika sect under Ashoka at Barabar. The Lomas

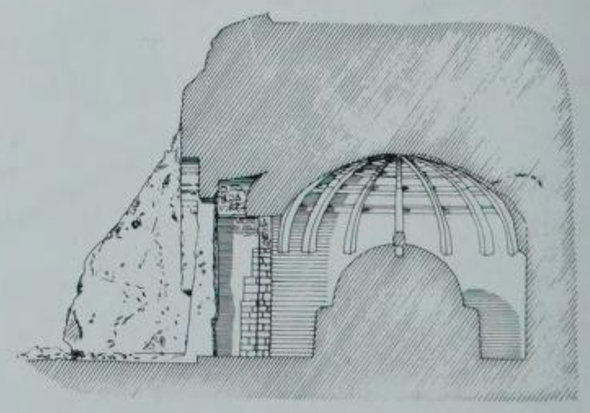


25. *Chaitya-griha* plans (1:500; orientation varied from conventional north at head of page): **(a)** Sudama; **(b)** Kondivte; **(c)** Kondane; **(d)** Bhaja; **(e)** Nasik, Pandulenya; **(f)** Ajanta IX; **(g)** Junnar, Budhlenya; **(h)** Guntupalli; **(i)** Bedsa; **(j)** Karle; **(k and i)** Kuda I and XV.

26. Lomas Rishi, *chaitya-griha*: facade.

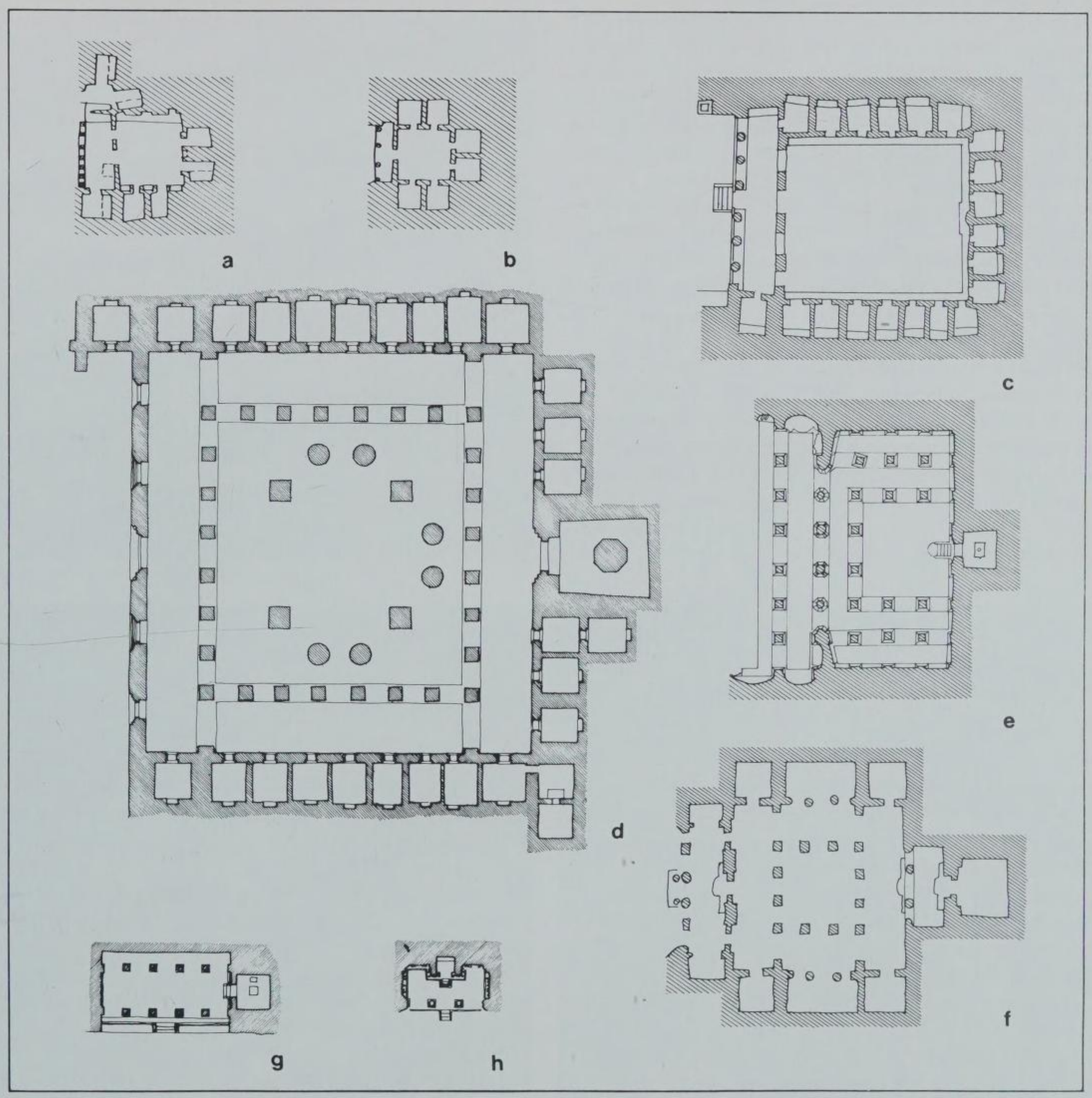
25(a) Rishi and Sudama *chaitya-grihas*, unlike their simple rectangular neighbours, have barrel-vaulted halls carved parallel to the rock face and entered from the side, leading to a roughly circular, domed shrine. Surfaces are highly polished and the curved shrine wall has vertical grooves, representing palings, and overhanging eaves. Under the later Mauryas the Lomas Rishi hall was given a facade representing a timber structure with inclined posts, purlins, rafters, *makara* and elephant frieze, bowed roof and pot finial.

25(b) The *chaitya-griha* at Kondivte (near Bombay) recalls the Sudama but while its *chaitya* cell is domical its hall is flat-roofed and, cut perpendicular to the rock-face, it is entered and lit from the end; the interior spur-wall, pierced with large *jali* windows, is thinner than in the Barabar works and may be read on plan as mere partition. The next steps seem to have been taken in Pitalkhora XII and XIII: the former is an apsidal hall in which internal partitioning is dispensed with altogether, leaving the *chaitya* exposed to the rays of the sun penetrating the entrance; in the latter the diameter of the open shrine chamber exceeds the width of the hall but a colonnade follows the perimeter throughout to form aisles and ambulatory for *pradakshina*.



27. Guntupalli, *chaitya-griha*: section.

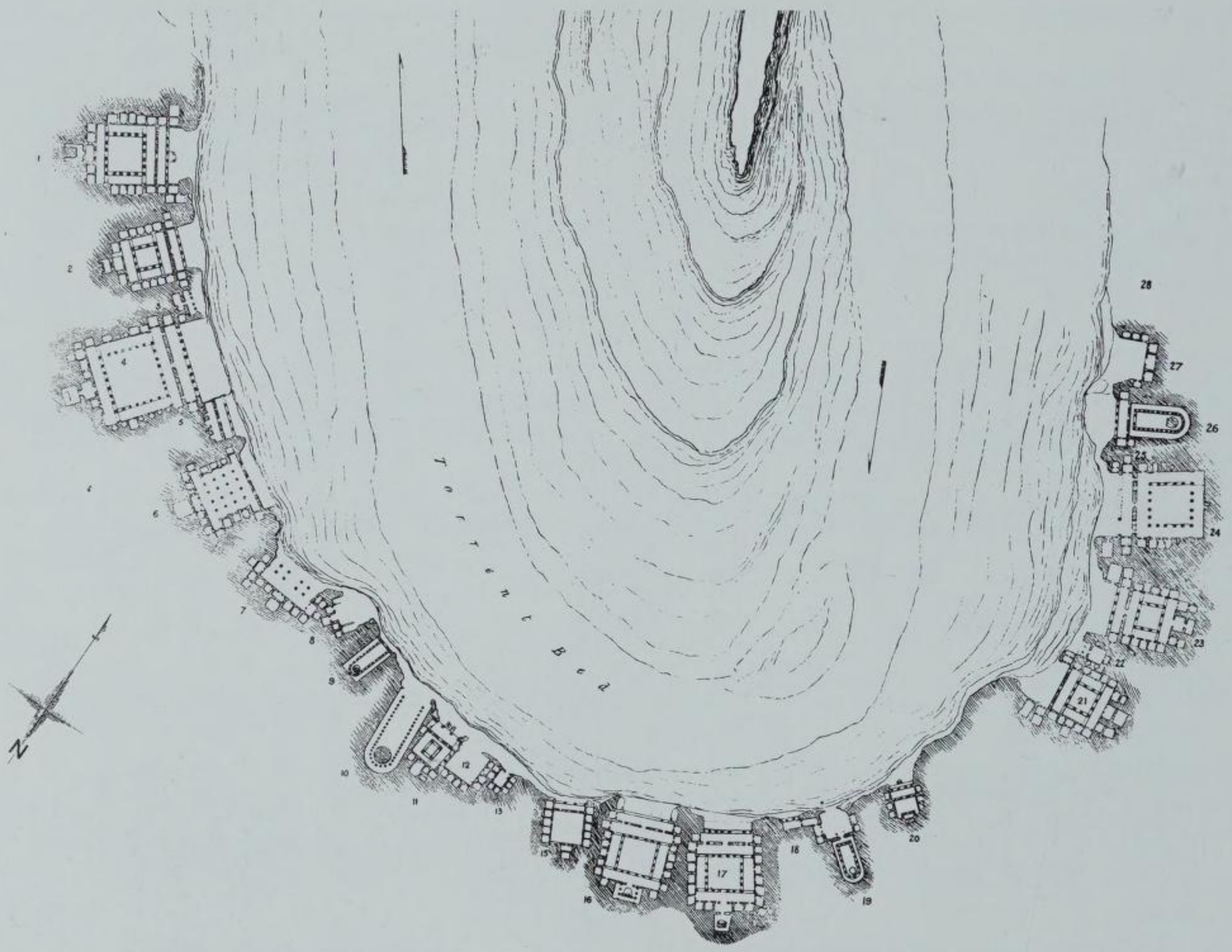
28. *Vihara* plans (1:500; orientation varied): **(a)** Bhaja XIX; **(b)** Ajanta XIII; **(c)** Nasik III, Gautamiputra; **(d)** Bagh III; **(e)** Badami III; **(f)** Aurangabad III; **(g)** Tiruchirappalli, Lalitanikura; **(h)** Mahabalipuram, Varaha.



At Guntupalli surviving structural and excavated works are modelled on the simple village shrine with porch but no hall,
22 of which the Bairat work is an elaboration. The excavated one has a vault imitating the basket-like framework of a thatched roof and it has an imitation structural facade like Lomas Rishi. The similar hemispherical cell at Tellichery has a central pole rather than a *stupa* and while it is possible that this merely represents a structural necessity of the free-standing prototype, it might well be a *yupa*.[14]

In Mauryan India, as in far-off Dorian Greece, perishable forms sanctified by association were translated literally into durable stone by builders steeped in the craft conventions of timber structure. The complete mastery of the art – not in structure, as in Greece, but in sculpture – was the over-riding objective of their successors.

Buddhists may have been persecuted under the Brahmanical Shunga who succeeded the Mauryas, but in the Shunga domains, no less than in those of the Satavahanas, the *Sangha* flourished with the patronage of rich merchants and the support of a large section of the working class. Monastic building and excavation proliferated. Apart from *stupa* embellishment, by far the most impressive



29. Ajanta, site plan (1:2500).

remains are the monasteries hewn from the rock walls of the valleys in the Western Ghats through which routes frequented by potential converts and patrons linked the centres of the Satavahanas' Deccani domains with Sopra and neighbouring Arabian Sea ports. Buddhist patronage produced over a thousand significant excavations at a score of sites, most notably Bhaja, Nasik, Junnar, Bedsa, Karle, Kanheri, 4; 6 Kondane, Pitalkhora, Aurangabad, Ellora and Ajanta.

Each site offers at least one *chaitya-griha* and several *viharas*, associated as closely as the consistency of the rock and the expansion of the monastery permitted. Working from top to bottom and finishing each section before starting on the next, the craftsmen showed themselves adept from the outset at reproducing in rock the intricate carpentry of multi-storey structures – *vedika*-bordered terraces and balconies, lattice screen walls, dormer and bay-windows – just as their forebears had reproduced the planks and thatch of the unsophisticated structures on which the excavations at Guntupalli, Barabar and Kondivte were modelled. The *viharas* range from isolated cells to the more or less formal grouping of cells about a hall preceded by a portico – reflecting 12(a) the communal space of the *ashrama* ringed with huts. In so far as there was any consistent development, apart from greater size and elaboration, this tended towards greater regularity on the lines of the *apadana*. Following structural examples, like those represented in early reliefs and 'Temple 40' at Sanchi, the typical *chaitya-griha* is an elongated, 12(c); unpartitioned hall with an apse containing the *chaitya*: a 24(d) colonnade, following the perimeter and curving round the *stupa*, defines the circumambulatory passage within. At several sites a sequence of rectangular chambers culminates in a cell-like shrine and at Junnar the circular Tuljalenya, lacking assembly space, conforms to the type represented by the original scheme at Bairat.

The *chaitya-grihas* of Bhaja and Kondane, Ajanta X and 25(c),(d); Pitalkhora III, are similar in their simple, slanting octagonal 29 posts, without base or capital, and the more or less irregular curve of their great arches. All had front screen walls entirely of wood and support holes indicate that applied woodwork played an important part in recreating elsewhere the sort of detail to which stone did not immediately lend itself – such as galleries for musicians. Yet while the gratuitous vault ribs are of stone over the aisles of Pitalkhora III and Ajanta X, they are of timber in the more mature works at Nasik, Bedsa and Karle. The *viharas* at Bhaja – especially the elaborately treated XIX – well represent the early phase. Ajanta XIII and 28(a),(b) Nasik XIX are both more regular.

A second Hinayana c*haitya-griha* at Ajanta (IX) has a front

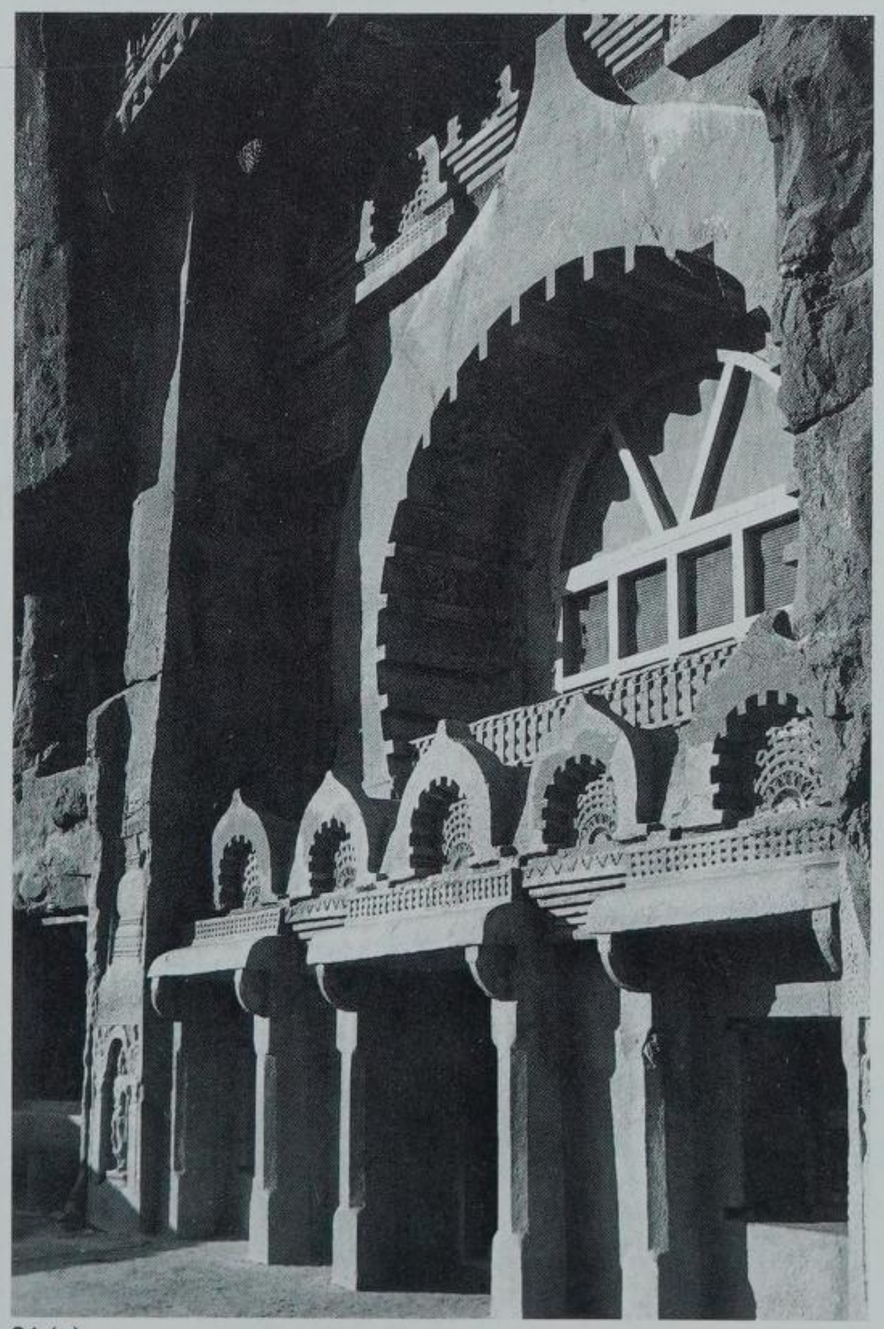
30 (a)

of stone rather than wood, though the central door flanked by windows and the large lunette, once with timber mullions, are the dominant elements in the composition. Non-apsidal and with flat-roofed aisles, like Aurangabad IV, the pillars are still of the primitive slanting variety, without base or capital. At Nasik, the Pandulenya also has a stone facade but here the ratio of solid to void has been reversed. At Junnar the Budhlenya, comparable in plan to the Pandulenya but unfinished, opens a series in which even the great lunette is suppressed in a blind, entirely decorative, scheme. 25(e),(g)

In the Pandulenya the forms of the Mauryan 'Pillar of the Law' were adopted for some of the columns, their perpendicular shafts rising from *kumbha* to plain block capitals, and an Order incorporating all the major elements of the Mauryan *stambhas* plays the main part in the elaborately feigned structural detailing of the facade. A related order with winged animal capitals is also used at Pitalkhora in *vihara* IV. On a splendid terrace, borne by elephants and guarded by *gandharvas*, the columns carried an imitation timber-beamed roof.

Apart from one next to the *chaitya-griha* at Kondane,

30 (b)

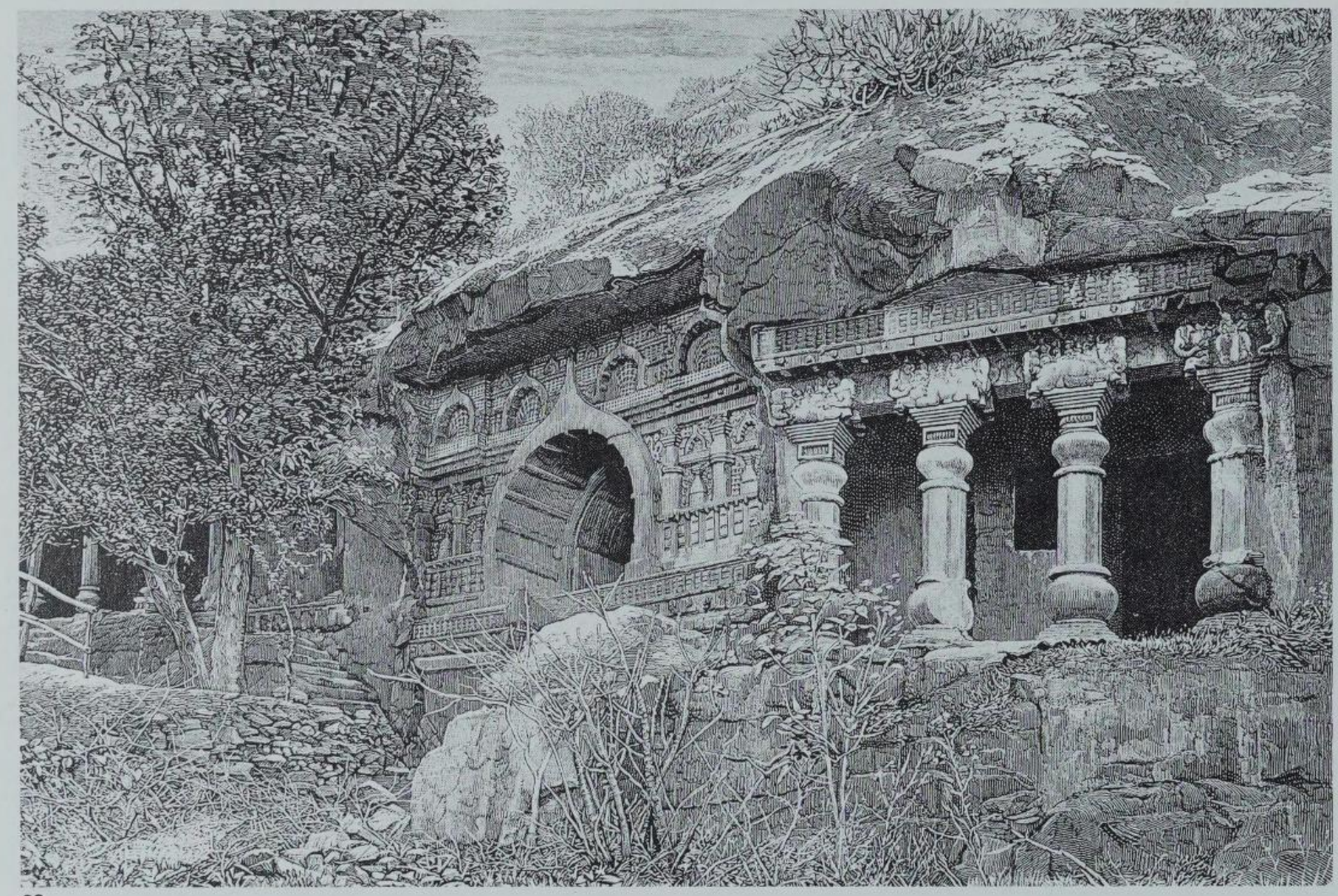


31 (a)

31 (b)

30. Bhaja, *chaitya-griha* and *viharas*: **(a)** from west; **(b)** nave and *chaitya*.

31. Ajanta IX: **(a)** from south-east; **(b)** nave and *chaitya*.



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Pitalkhora IV had few rivals amongst the early Hinayana *viharas* of the Western Ghats. In the east, however, the probably contemporary series of *gumphas*, excavated by the Jaina dynasty of King Kharavela of Kalinga at Udayagiri (near Bhubaneshwar), included equally sumptuous works: none shares the plan form of the western *viharas* but the most elaborate, the Rani Gumpha, has a somewhat theatrical arrangement of cells and verandahs on two levels about an open court.

Ajanta IX opened a phase of excavation in the Western Ghats which was marked by increasing confidence in the handling of stone, especially in the construction of facades and the treatment of the Order. After the fine work at Bedsa, the culmination of this phase was achieved in the great *chaitya-griha* at Karle which seems to have been emulated subsequently only in the unfinished one at Kanheri. The front of each of these works consists of a screen: of Mauryan-type pillars *in antis* at Bedsa; of free-standing *stambhas* and much-damaged stone framework upon which timber facades were hung at Karle and Kanheri. Behind these are elaborate verandahs with multi-storey *prasadas* represented on their sides – and, at Karle, images of *bodhisattvas* added in the 5th century. Three doors, flanked by *mithunas* at Karle, lead to nave and aisles below the elegantly curved lunettes. All

25(i),(j)

three have mature statements of the Mauryan Order, incorporating animal capitals as well as kalasha bases. At Bedsa, where the Order is used only outside, the tassel-like member is petalled like its prototype and an abacus, in the form of the sacred *amalaka* fruit in a box, supports a stepped echinus bearing a mounted bull, horse and elephant. At Karle, where the Order is used throughout, the tassel-like member is ribbed, as in the Pandulenya, and at Kanheri it has been replaced by an inverted *kalasha* on the first six columns of each row, the rest being finished off with minimum effort or left incomplete.

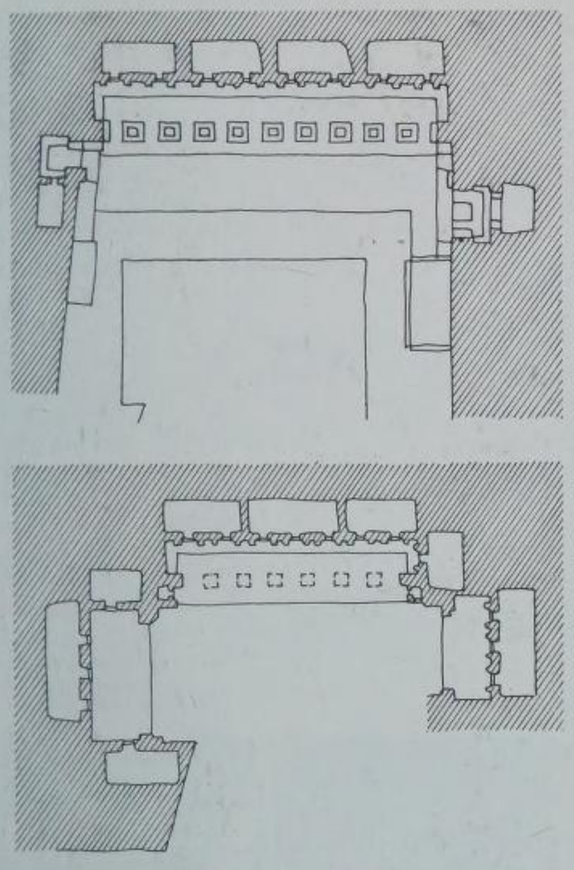
The Mauryan Order with *kalasha* capital was widely used at most Western Ghat sites in works generally dated later than the *chaitya-griha* at Karle, including the great Gautamiputra and Nahapana *viharas* (III and X) at Nasik, the Ganeshalenya *vihara* and the Lenyadri, Ambika, Bhima Shankar and Shivneri *chaitya-grihas* at Junnar. Nasik III has an elaborate facade with a *vedika* before the Order which recalls the form represented in reliefs in Amaraviti. The hall portal is a *torana* with *gandharvas* and *mithunas*. On axis in the centre of the back row of cells inside, Nasik III and X have reliefs of *stupas* with worshippers.

28(c)

The introduction of the *chaitya* motif in Nasik III and X foreshadows the cross-fertilization of the *vihara* and *chaitya-*

32. Nasik, Pandulenya: facade.

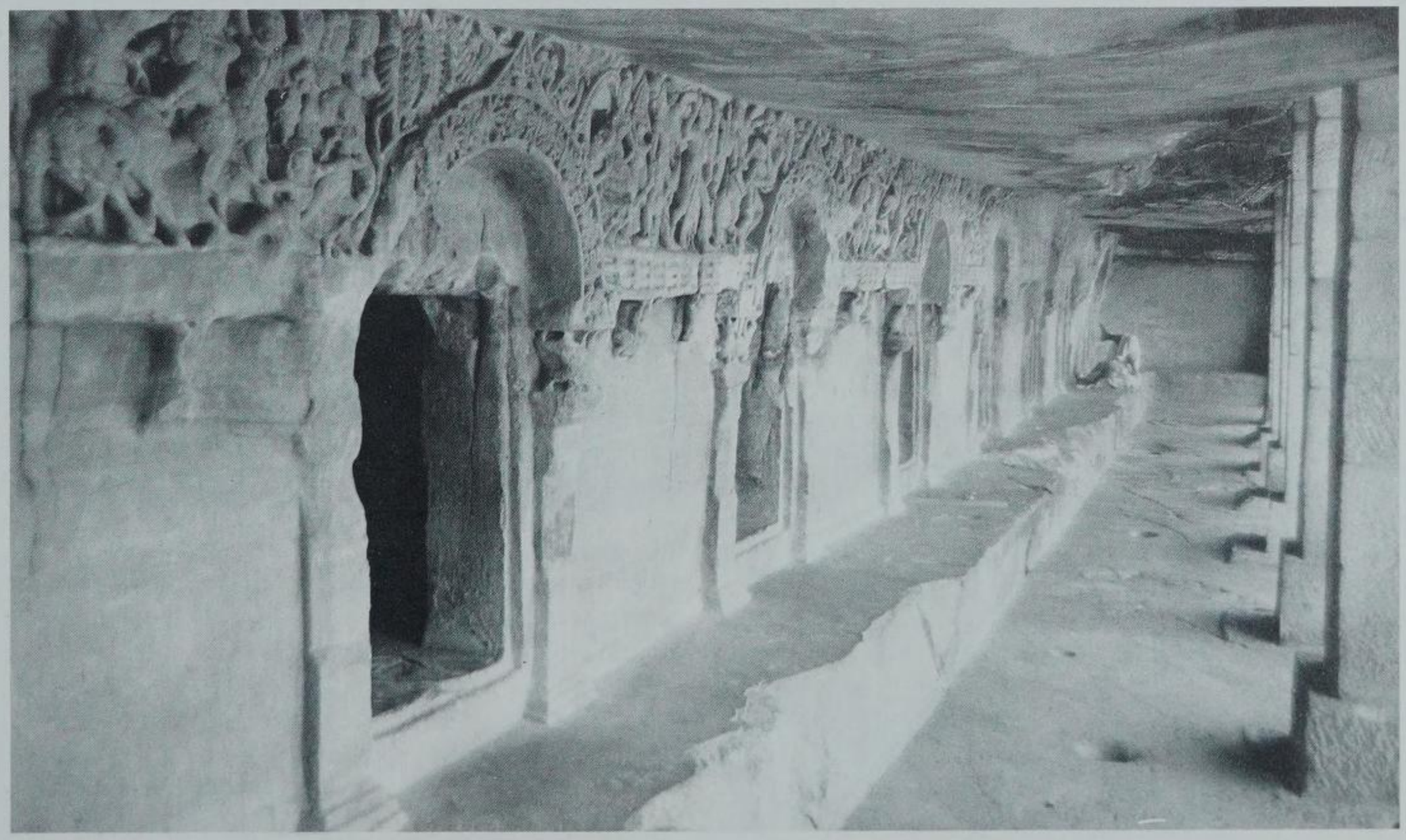
33. Junnar, Budhlenya: facade.



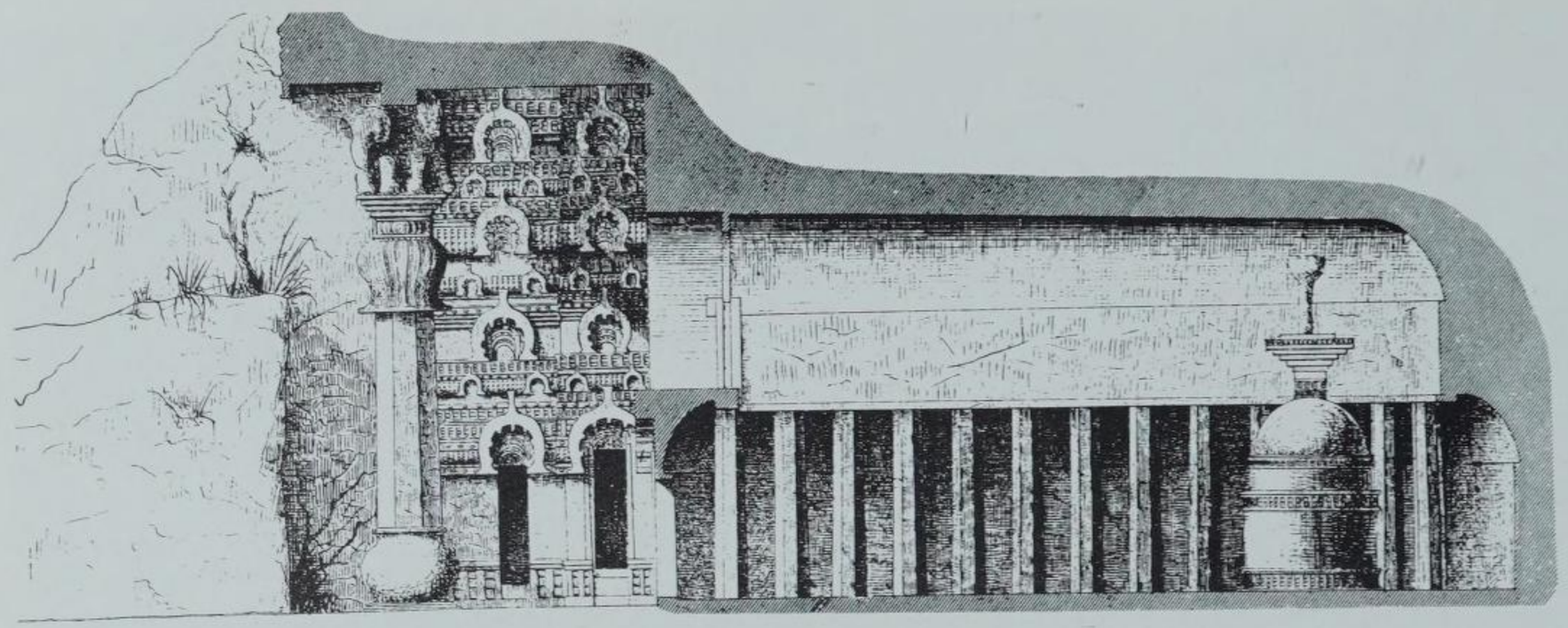
34 (a)

34 (b)

34 (c)

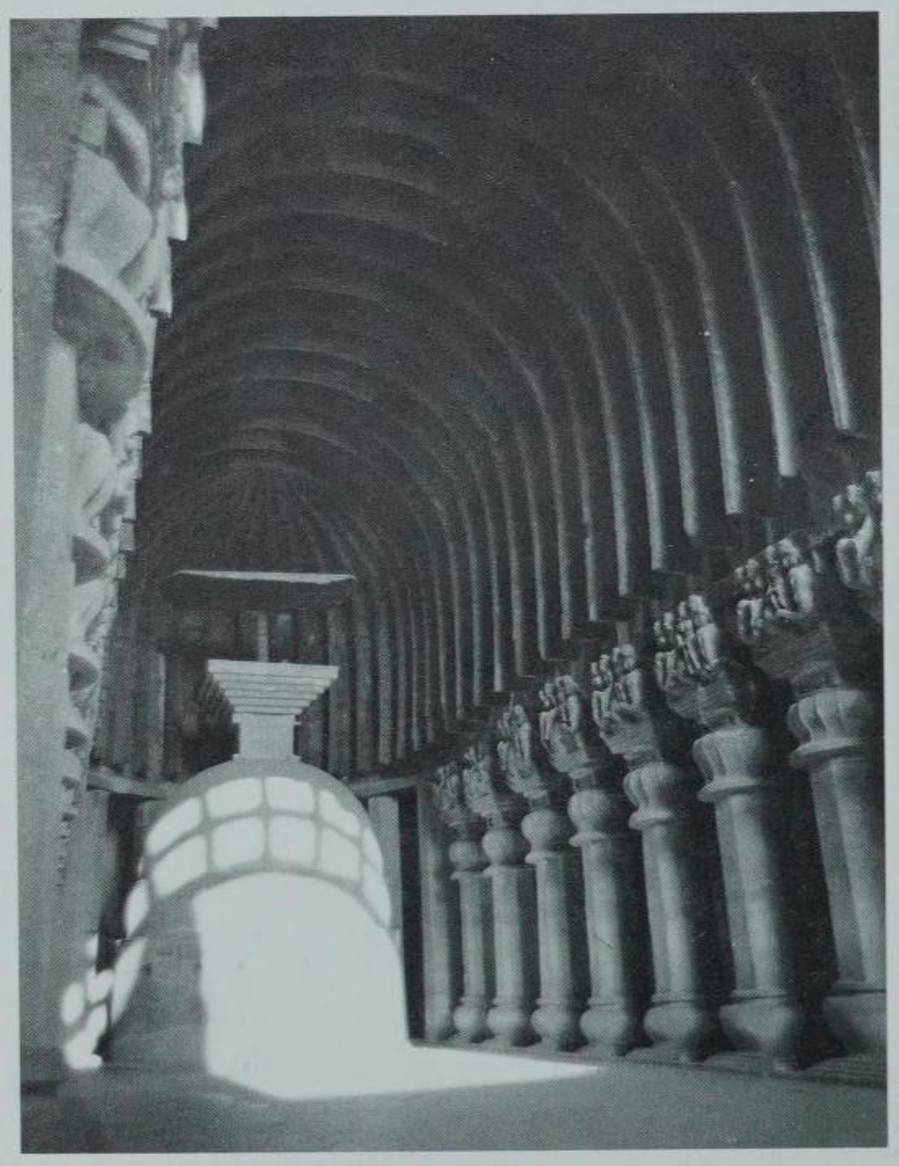


34. Udayagiri, Rani Gumpha: **(a)** plans (1:500) of upper and lower levels; **(b)** from south; **(c)** verandah, upper level.

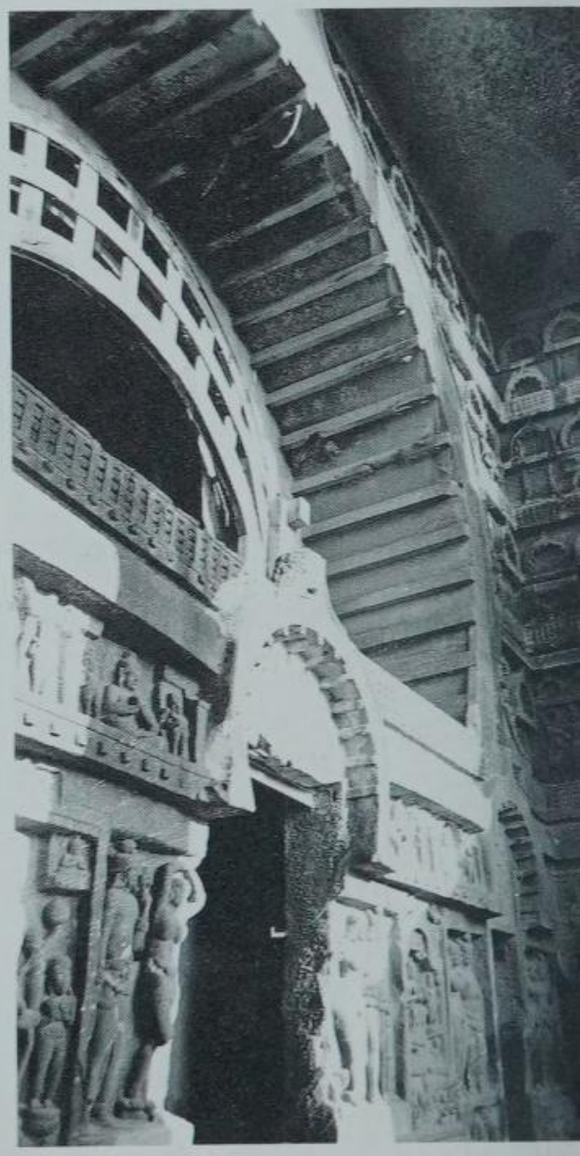


35. Bedsa, *chaitya-griha*: section.

36 (a)



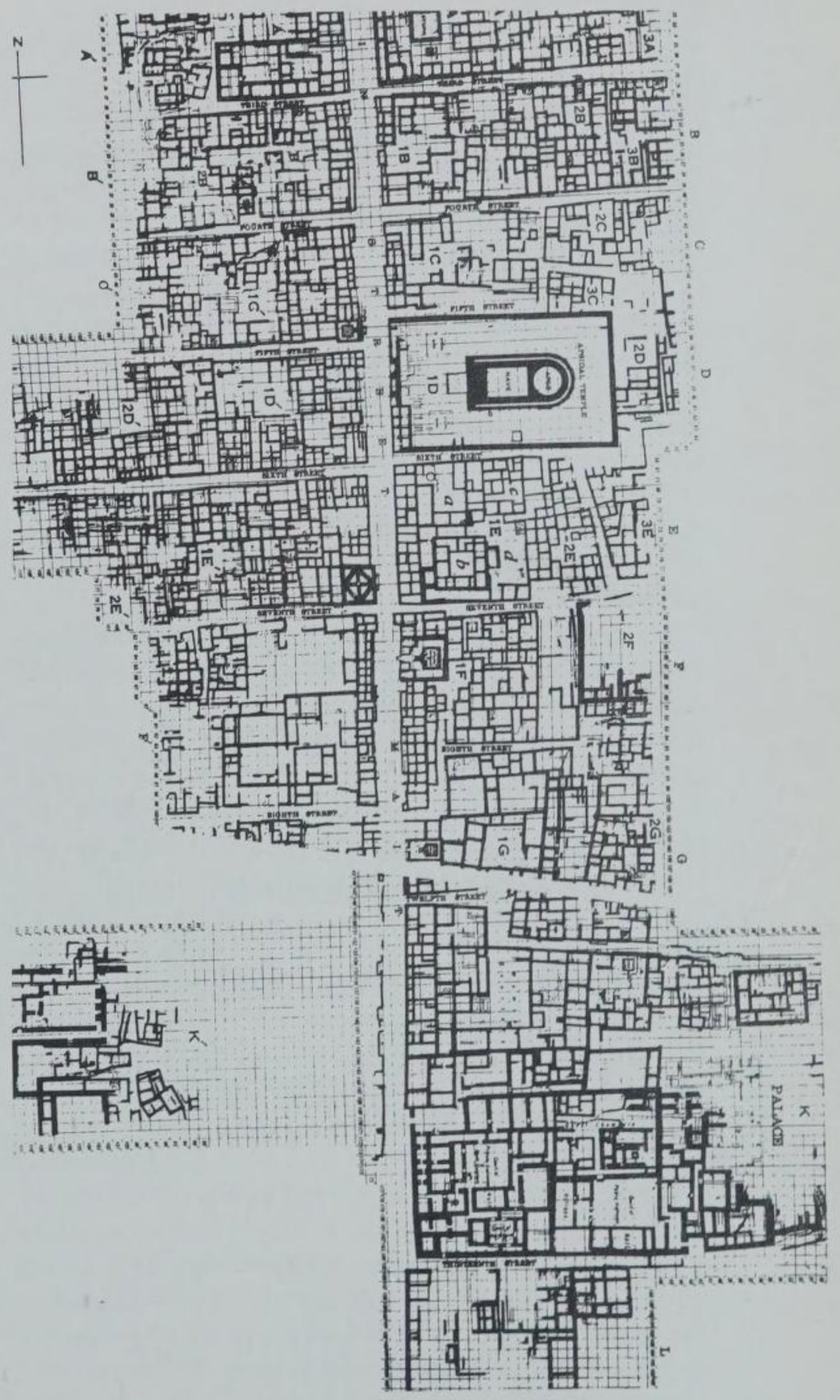
36 (b)



36 (c)

36. Karle, *chaitya-griha* (**a**) from west; (**b**) nave and *chaitya*; (**c**) verandah.

37. Taxila, Sirkap plan (1:2500) with apsidal *chaitya-griha* and palace (bottom right): debased Corinthian capital inset.



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griha forms which served later Mahayana purposes. The same tendency is apparent in the late series of *chaitya-grihas* at Junnar. The Lenyadri and Ambika are still apsidal halls with verandahs but in the Bhima Shankar and Shivneri, as in many late works at Karadh, Kuda, Mahad and Shelarvadi in Maharashtra, Sana and Talaji in Kathiawar, the excavators departed from the integrated apsidal plan and provided a separate, rectangular, flat-roofed chamber for the *chaitya-griha* beyond a *vihara*-like hall and verandah. These developments may well be reflected at Bedsa where the second main excavation was probably begun as a *chaitya-griha* but completed as the unique apsidal *vihara*.[15]

25(k),(l)

Innovations in the North

Gandhara and the sometime distinct kingdom of Taxila on the eastern side of the Indus shared with Mathura way off on the Yamuna the responsibility for fostering radical change in Buddhism. Art was an essential factor. As we have seen, amongst the many symbolic representations of the Buddha, the principal architectural object, the *stupa*, was itself the principal object of veneration. The erection of shrines specifically for the lay devotee and the adoption of the Buddha's image as an object of worship were the crucial steps on the path away from the non-theistic orthodox tradition. When these steps were first taken is unknown, as we have already noted, but the development of the way later to be called the Mahayana was certainly boosted by the patronage of the foreign rulers of Gandhara, exercised through heterodox sects like the Sarvastivadins. The preparation of the ground, however, goes back beyond the Parthians and Shakas at least to the Greek heirs of Alexander in Bactria, whose anthropomorphic religious attitudes and modes of expression had their own impact in the conquest of north-west India. Along with debased Orders, sculpture of Hellenistic inspiration followed them and upon it Gandharan artists were to model their images of the Buddha. Hellenistic influence was felt at Mathura, also a Sarvastivadin centre. At least as potent there, however, was the native tradition, which had already evolved the *yaksha/yakshini* image, perhaps best represented by the bracket figures of the Sanchi *toranas*. In the absence of evidence at devastated Mathura it is not surprising that the earliest shrines designed to cater for the worship of the Buddha's image have been found at Taxila.[16]

Unfortunately the sparse remains throw no light on how the Hellenistic culture of the Bactrians was pressed into the service of the Buddha in Gandhara but the Hellenistic stamp was impressed upon the plan of their capital at Taxila, Sirkap.

In contrast to the Mauryan settlement nearby, if not to India's ancient theoretical tradition, Sirkap was laid out strictly in accordance with the grid principle of Hellenistic town-planners elsewhere, its defences embracing an isolated

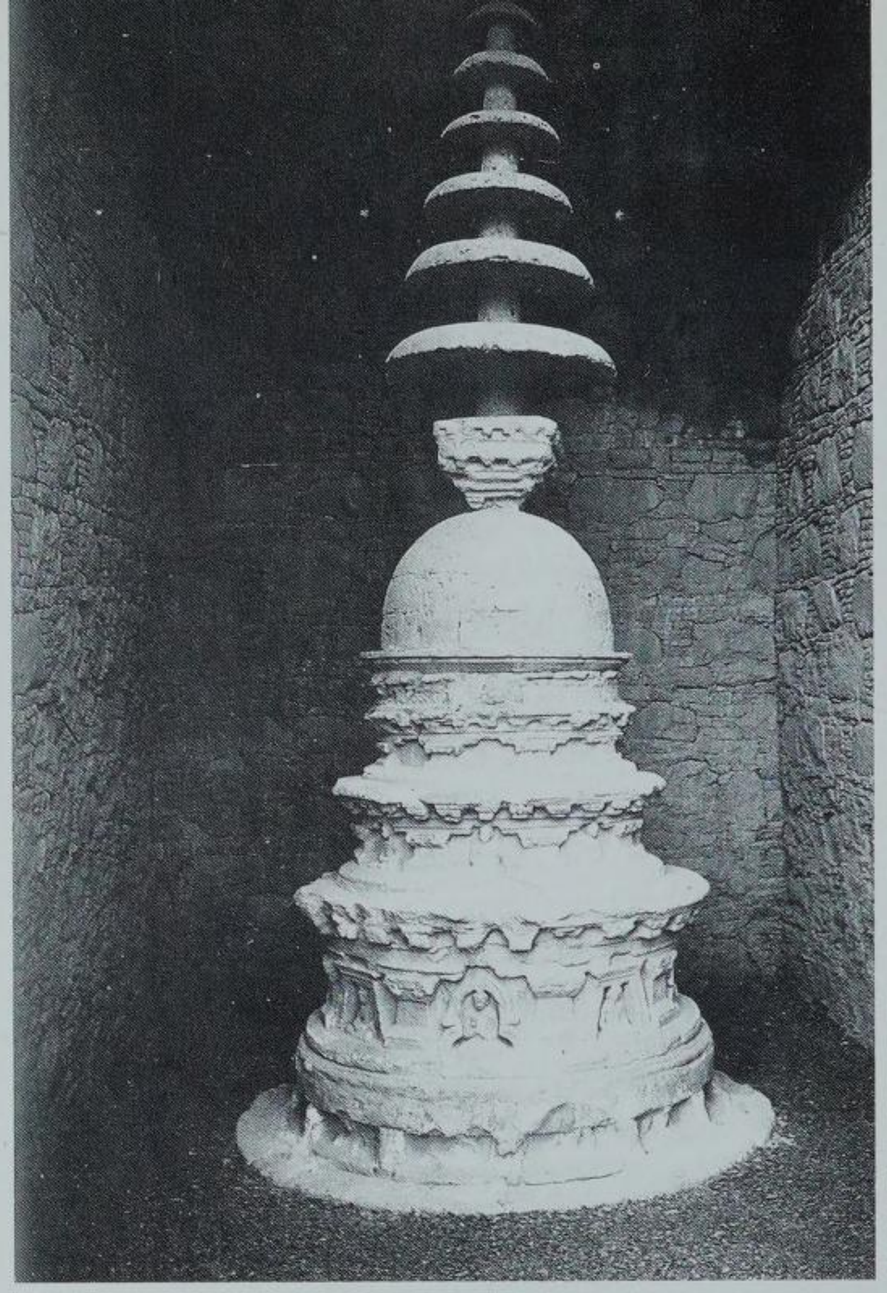
acropolis. There is little trace of the major Bactrian buildings as Sirkap was rebuilt several times, most notably by the Parthians after a great earthquake of about A.D. 30. The grid asserted itself throughout but, unlike the trabeated structures so far encountered elsewhere in India, the Parthian palace is related to those of Ashur or Nysa with a warren of walled chambers surrounding courts amongst which one at least – which may have been for public audience – was dominated by a raised *iwan*-like hall.[17]

The eclecticism of the invader is particularly apparent in the diversity of their religious foundations and imagery, especially in the embellishment of the *stupa*. Additional *medhi* elements and rectangular plinths, often in several tiers, were introduced to the latter and the *chattravali* was sent up to great heights with multiple discs. The sides of the drums and plinths were richly decorated, usually in stucco, with relief panels depicting scenes from the life of the Buddha set in an architectural framework.

The first of the Shakas, Maues, is credited with the active endowment of *stupas* but the Shaka ruling class remained committed to at least one of the faiths they had acquired on the way to India. The great temple at Jandial, built just outside Sirkap in a type of coursed rubble commonly used in the early Shaka period, has been identified as Zoroastrian. Remarkably similar to the Roman temple in plan – with pronaos, cellar and closed rear chamber, unlike the Greek temple it is uni-directional. The cyma recta moulding of its base and the capitals of its columns are close to Ionic but elsewhere debased Corinthian is common. Much later, the remains of the Kushana dynastic cult shrine at Mat (near Mathura), which included fragments of monumental royal portrait sculpture, seems to have represented something of a synthesis in plan between the Jandial temple and the shrine at Bairat.

Within Sirkap the Buddhist laity had a great apsidal *chaitya-griha* whose court was gained directly from the main street via two flights of steps. Another flight, flanked by two small *stupas*, led to the principal shrine which contained a porch, a rectangular hall and a circular chaitya cell, all surrounded by a semicircular ambulatory defined by the load-bearing perimeter wall. The cult object within was probably a *stupa* but no remains of it were found. Sculptured reliefs were, however, recovered from the remains of the twin *stupas* flanking the entrance and two of their vigorous Hellenistic figures have been identified as the earliest surviving images of *bodhisattvas*.[18]

In many Shaka and Parthian relief panels the nature of Western influence is apparent not only in the form and arrangement of the figures but also in the architectural framework. This frequently included debased Classical Orders but Persepolitan and Mauryan ones were also used, independently or combined. Like the reliefs themselves, Hellenistic in inspiration and form but Indian in content, the



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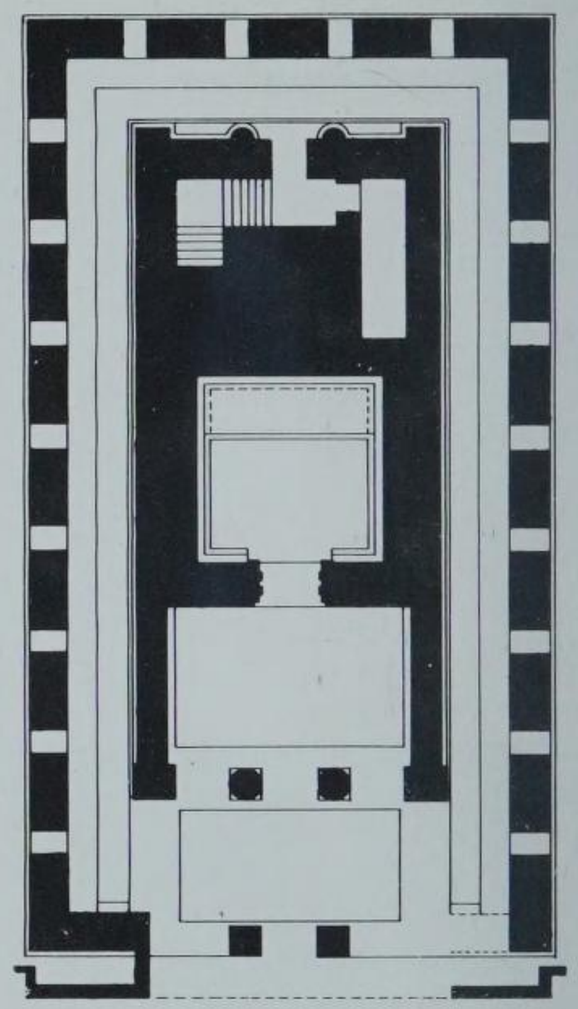
fusion of native and imported architectural elements bears eloquent testimony to the eclecticism of the patrons. Another of the many shrines at Sirkap erected for lay devotees, the 'Sanctuary of the Double-Headed Eagle', provides the most spectacular surviving example of this eclecticism. Probably once supporting a typical many-tiered *stupa*, the rectangular base is divided into bays by Corinthian and Tuscan pilasters. The front ones contain niches in the varied forms of a Classical aedicule, Indian lunette and *torana* surmounted by eagles – some with double heads.

The monasteries of Gandhara were many but the main ones were in the vicinity of the two great capitals on either



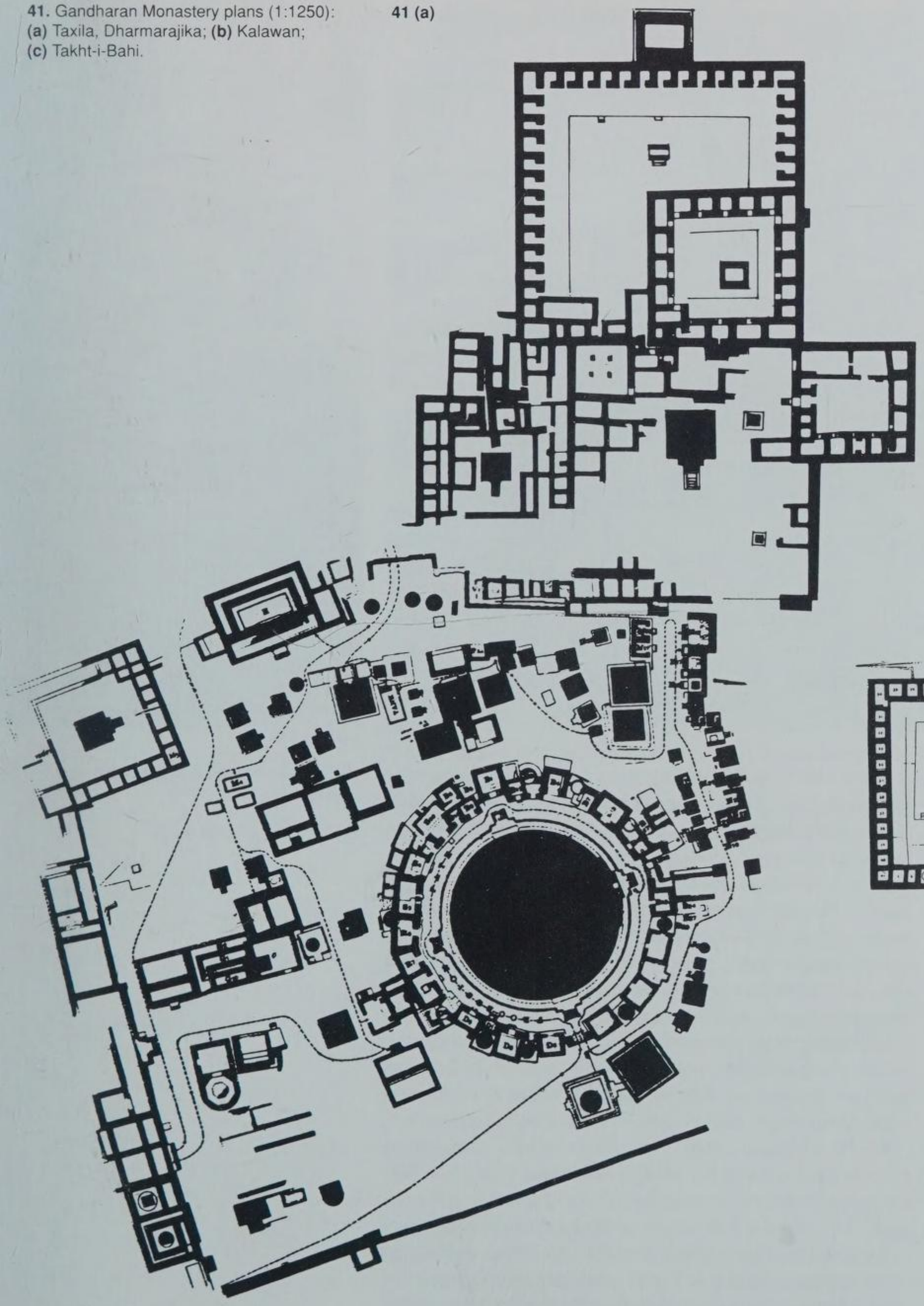
38. Taxila, Jandial 'Fire Temple': plan (1:500).

39. Mohra Moradu, votive *stupa*.

40. Taxila, Sanctuary of the Double-Headed Eagle'.

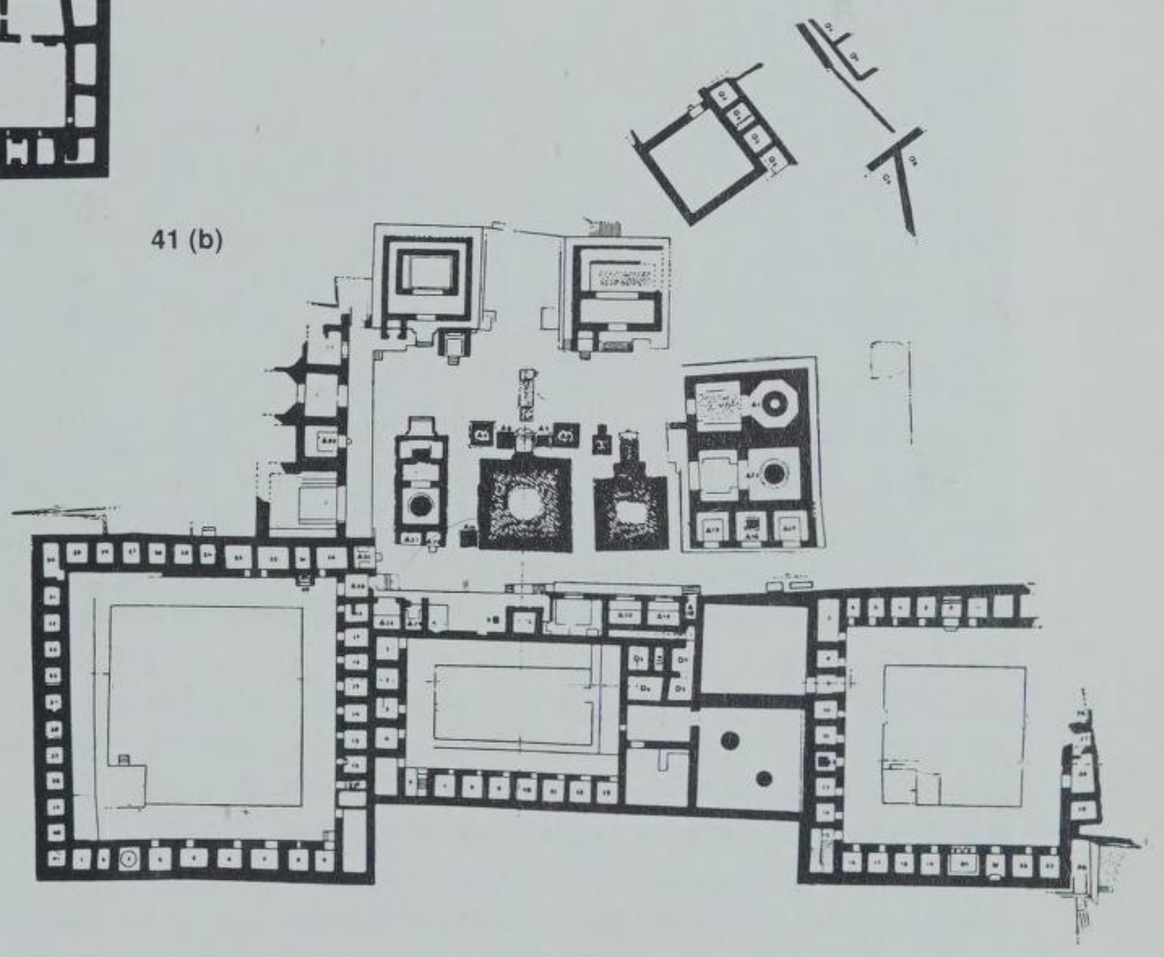
41. Gandharan Monastery plans (1:1250): **(a)** Taxila, Dharmarajika; **(b)** Kalawan; **(c)** Takht-i-Bahi.

41 (a)



side of the Indus, Sirkap and Purushapura. Their principal *stupa* was usually surrounded by small votive *stupas* and shrines, beyond which were the quarters of the *Sangha*. The early *viharas* were *ad hoc* agglomerations of cells, perhaps ranged behind verandahs with communal halls, refectories, kitchens, bathrooms and cloisters in detached structures. Later, as settled monasticism became the norm, more regular walled quadrangles were surrounded by colonnades with one or two storeys of cells. Occasionally the central court was roofed to form a closed assembly hall and some of the cells were converted into *stupa* or image shrines (*arca-griha*) dedicated to a saintly former occupant, an obviously

41 (b)



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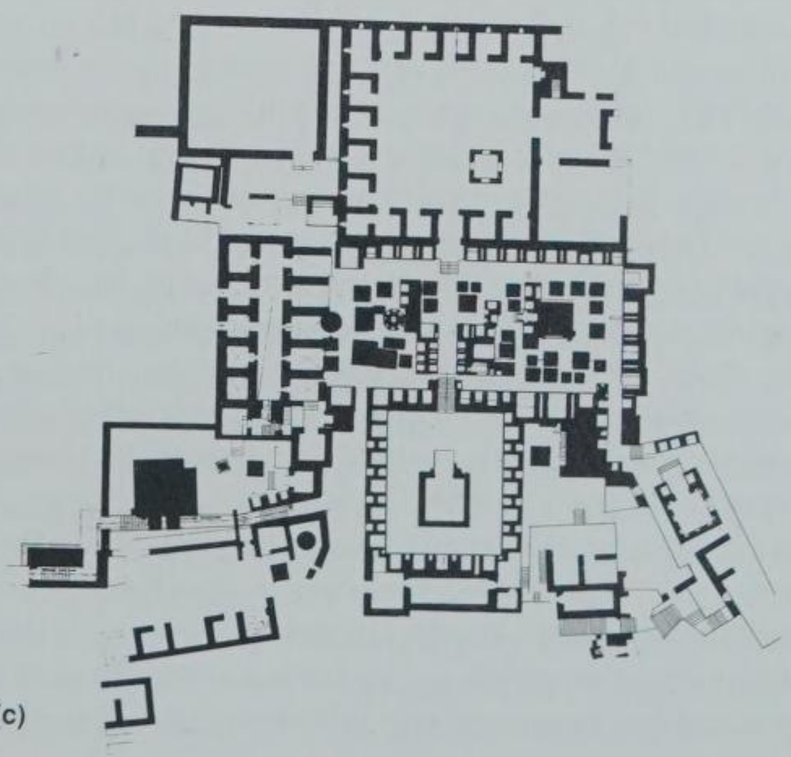

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practical arrangement in the exposed north which had a ready parallel amongst the most sophisticated excavated
28 *viharas* of the Western Ghats. In the mature form of Gandharan monastery, a single *stupa* dominated the site from a court of its own with one or more quadrangular *viharas* related to it, often along strong axial lines.

Taxila's Dharmarajika is the most important remaining example of the early form of monastery. The Mahastupa, with no plinth, consists of an *anda* with radiating interior walls, and a *medhi*, supporting a *pradakshina-patha* reached by stairs at the cardinal points. The face of the *medhi* was embellished in stages under the later Kushanas. First came shallow Corinthian pilasters resting on torus and scotia mouldings supported by Indian brackets and surmounted by a dentillated cornice. Then came a circle of niches (*rathikas*), alternately trefoil and trapezoidal, containing images of *bodhisattvas* in an architectural framework which broke forward opposite the steps where a larger niche enshrined a central figure of the Buddha. Around the base of the *medhi*, the main circumambulatory path was ringed by small votive *stupas* and image shrines. Many votive *stupas* and shrines, including several apsidal temples, were scattered haphazardly throughout the compound, and one of these contained the earliest known building record of an image shrine dated c. A.D. 78. The main *viharas*, none formally related to the Mahastupa, include the earliest known rectangular walled complex with continuous verandahs before the cells.[19]

Early in the Kushana period the monks of Kalawan and Jaulian attempted some semblance of axial planning in the alignment of their *viharas* and *stupa* courts. Kalawan is exceptional in having two principal *stupas* of almost equal size. It also boasts early examples of free-standing shrines with rectangular image chambers as well as *vihara* cells converted into shrines and a subsidiary establishment has a *vihara* with a covered central court. The sites at Jaulian and Mohra Moradu were rich in stucco remains, including an exceptional votive *stupa* found intact in a cell at the latter.

At the principal sites near Purushapura, the actual architectural remains are usually scanty but they show that the monasteries conformed to the fully evolved Gandharan type, with a principal *stupa* centrally placed in a court surrounded by chapels and flanked, sometimes axially, by quadrangular *viharas*. At Takht-i-Bahi however, where the hillside site was occupied at least from Parthian times, remains are extensive and reveal the most coherent planning exercise in ancient Gandhara. The arrangement of the various courts is not strictly axial but takes advantage of the natural contours

42. Sarnath, Dharmekh Stupa: detail of ornament.

43. Bodh Gaya, votive *stupa*.

to produce an informal balance of forms. The highest court was surrounded by shrines, alternately domed and barrel-vaulted, and in its centre the principal *stupa* rose from a base of three receding stages and an upper circumambulatory path. This was reached by stairs aligned with another flight leading to the lower *stupa* court. Here votive *stupas* and shrines, which originally contained colossal images of the Buddah, were somewhat haphazardly disposed but a third flight of steps, aligned with the others, led down to the quadrangular *vihara*. A subsidiary square structure was sited off-axis to the west and from this a long vaulted passage led to the valley below.

According to ancient Chinese travellers, the highest and most magnificent structure in Gandhara was the Mahastupa at Shah-ji-ki-Dheri: they noted, variously, thirteen storeys and a *chattravali* of twenty-five gilt umbrellas. The base, with projections at the cardinal points measuring some 90 metres across, is one of the largest in the Subcontinent. Like the most elaborate of the late foundations near Taxila, Bhamala, it has a cruciform plan, but monumental staircases to all four sides there, are absent here, and circular projections at the corners here, absent at Bhamala, suggest a five-shrine (*panchayatana*) foundation. Its core was constructed with radiating walls like the Dharmarajika at Taxila. A reliquary casket – one of the most startling testaments to the religious and cultural eclecticism of the period with its combination of Buddhist and Brahmanical imagery – identified its founder as Kanishka. It was made for the acceptance of the Sarvastivadins and the *vihara* to the west of the *stupa* was one of the principal centres of their teaching.

Of the great *stupas* of Madhyadesha none survives intact – the most impressive relic is the monumental brick stump of the Kushana Dhamekh *stupa* at Sarnath. However, as in the north-west, small-scale votive *stupas* do survive intact at the major sites and though generally post-Kushana, these give some idea of the form bequeathed by the Kushanas. They make it clear that the royal audience hall (*raja-bhavana*), often within a multi-storey *prasada*, provided the model for the frontispiece framing the image, the Buddha or *bodhisattva* thus being enshrined in the great hall of the *prasada*, as in the Ajanta frescos. The aedicule itself, indeed, often reproduces a vaulted hall in section, suggesting that the precise model was the prototype of the rock-cut *chaitya-grihas* of the Western Ghats.

12(c)

Innovations in the South

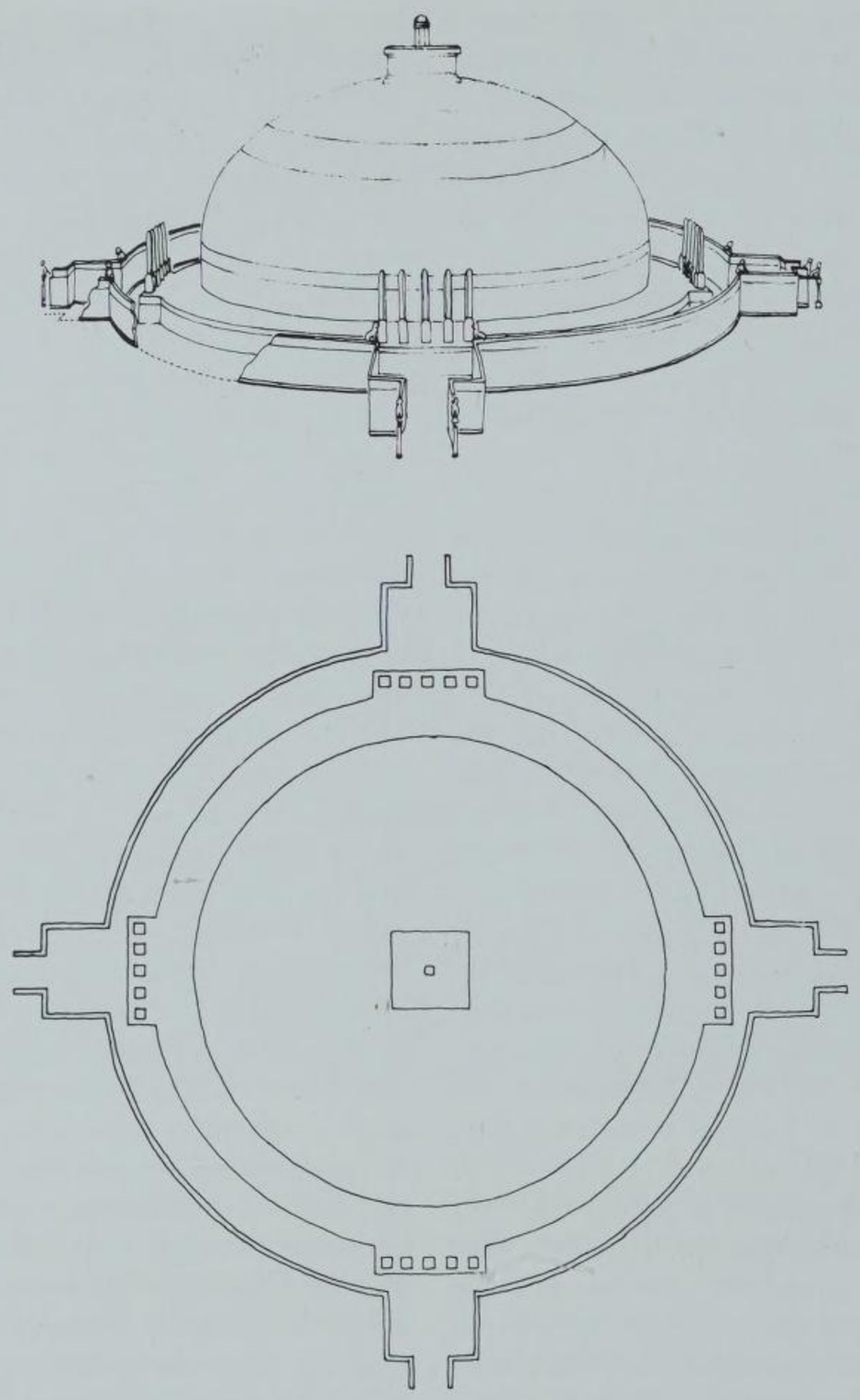
Developments in the North, especially the introduction of image-chambers and chapels for the laity, responded to fundamental changes in Buddhism fostered by the heterodox sects who achieved preponderance for the Mahayana. Similar developments were effected over the same period by the Mahasanghika in the Andhradesha. Buddhism had been introduced there under Ashoka but its great period was that of the Satavahanas and Ikshvakus, reputedly culminating in the establishment of the great Mahasanghika sage Nagarjuna at the Ikshvaku capital (Vijayapuri) in the late 2nd century A.D. Under these two dynasties Buddhist sites proliferated, the principal ones being in the lower Krishna valley between Nagarjunakonda (formerly Vijayapuri) and Ghantashala, most notably Amaravati (ancient Dhanyakataka), seat of the Satavahanas. The pattern for the great *stupas* of the kingdom was set at Amaravati and the monasteries are well represented by the many foundations at Nagarjunakonda.[20]

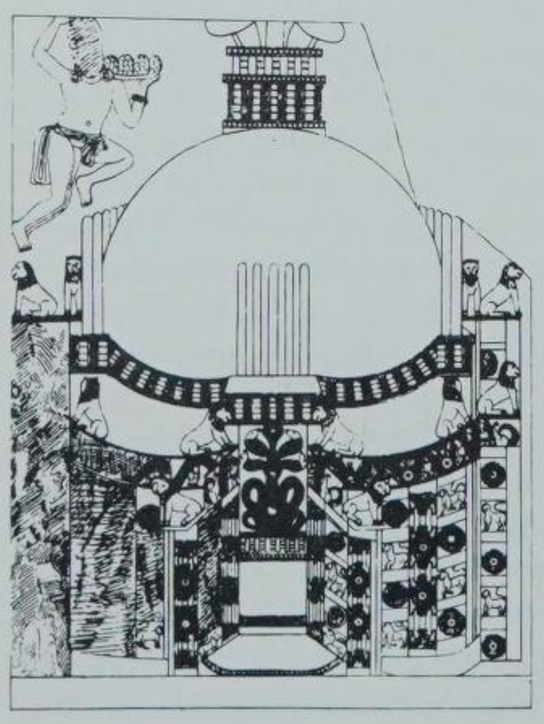
No Ashokan remains have been identified definitely in Andhradesha, even in the low mound which is all that remains of the Mahastupa at Amaravati, but a polished pillar fragment found nearby is sometimes linked with Ashoka's series. Vandalism and unscientific excavation have left little on site, but some five hundred pieces of sculptured marble revetment, including differing representations of the *stupa* itself, give a clear idea of the monument's development.

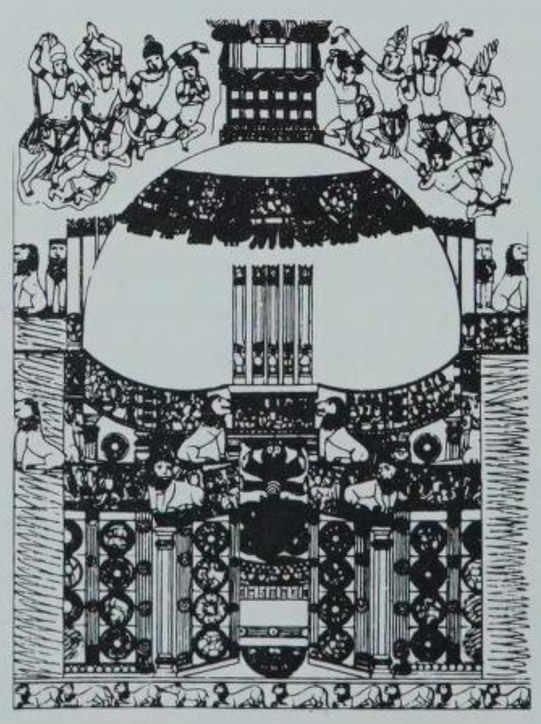
The plastered *anda*, once unadorned, acquired relief panels in superimposed bands around its base and, finally, a rich garland towards its summit. It was set back from the edge of the relatively low circular *medhi* leaving room for a circumambulatory path, though there is no trace of access to the terrace. The *medhi*, which had projections at the cardinal points bearing pillars (*ayaka*), was at first surmounted by a plain *vedika* and adorned only with symbols on the projecting wall below the pillars. Ultimately the reliefs representing the *stupa* were applied to all its walls below a magnificent frieze of *Jakata* episodes, relief panels were added to the *vedika* and the pillar projections received superb images. Beyond the circumambulatory passage about the base of the *medhi*, another magnificent *vedika* was decorated on both sides with floral or figural medallions, the greatest of the figural ones on the inside addressing the worshipper. The *vedika* broke forward in two stages before the projections at the cardinal points, to form lion-guarded entrances. Relief panels showing a simple *stupa* with plain hemispherical *anda* on a circular *medhi* seem contemporary with the representations of the Mahastupa in various phases of its elaboration and may show, or even derive from, associated votive works.

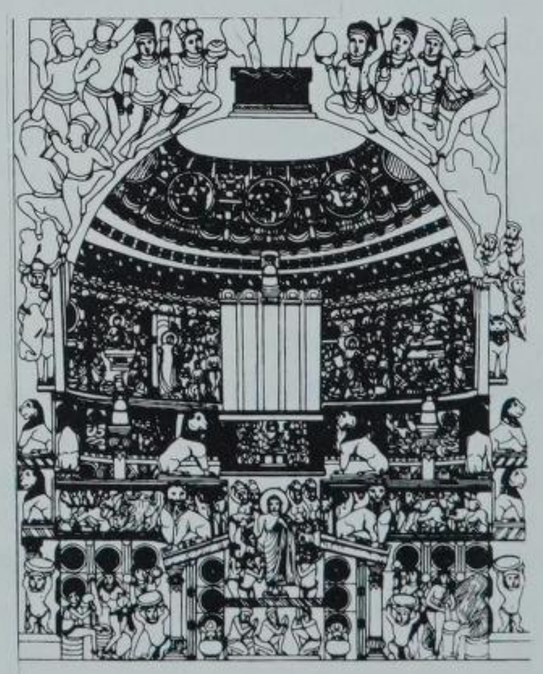
The expansion of the Mahayana under the Satavahanas and the patronage of Hinduism under the Ikshvakus may be traced at Nagarjunakonda, first in the appearance of image-chambers in addition to *chaitya-grihas* then of independent Buddhist, Shaivite and Vaishnavite temples. The advent of Shaivism is marked by the great *linga* of Gudimallam, datable from its sculptural style to a period not far removed from that of the Shungas in the north and therefore, probably the earliest known Hindu icon.

The Nagarjunakonda valley at the height of Ikshavaku power, like Taxila at the height of Kushana power, bristled with the stupas of dozens of monasteries belonging to various sects.

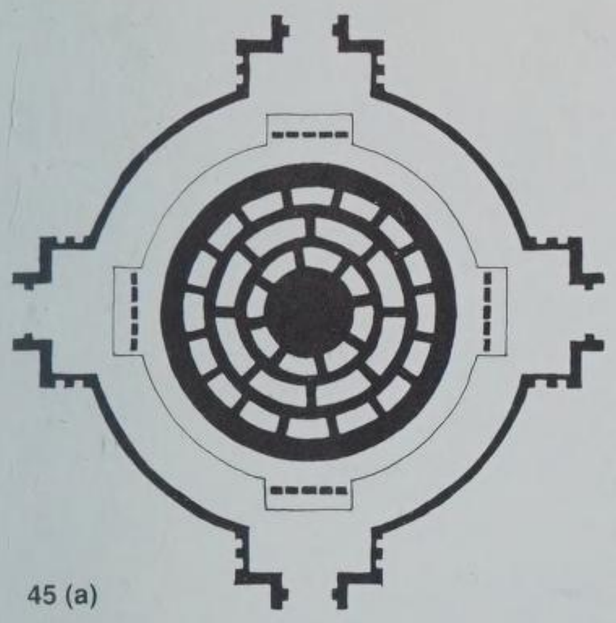








44. Amaravati, Mahastupa: **(a)** plan (1:1000) and reconstructed perspective; **(b)** three stages in the development of the Mahastupa.



45 (a)

45 (b)

45. Nagarjunakonda plans (1:1000): **(a)** Mahastupa; **(b)** Site III.

46. Ter Temple from south-west.

The simplest often consist only of a *stupa* and a *vihara* varying in size, but some do indicate an apsidal *chaitya-griha* containing a *stupa*. The more elaborate ones include image chambers. The main *stupas* were of brick or rubble, stone-encased or plastered, often with inner bracing walls varying in number according to size and radiating like the spokes of a *chakra*, as at late Buddhist sites elsewhere, or forming a *svastika*. Most of them had pillar projections as at Amaravati and Amaravati also provided the model for the decoration of those belonging to lay oriented sects which placed special emphasis on *stupa* endowment as a source of merit. The *viharas* were usually regular quadrangles with cells on three sides and the fourth open to shrines. A square wooden or stone *mandapa* sometimes filled their centres, as at Kalawan, Ghai and in the more elaborate rock-cut monasteries of the Western Ghats. The *chaitya-grihas*, brick and timber structures on podia, were usually apsidal but occasionally rectangular. These various components were related to one another with varying degrees of formality: Site I, with the Mahastupa, is a typical *ad hoc* arrangement; Site III represents the most formal, both its symmetrically disposed shrines being apsidal though one contained a *stupa*, the other an image.

Sectarian differences seem to have had little effect on the basic forms of the independent temples: one or more image chambers are preceded by one or two porticos in an enclosure with axially aligned entrance gate. Amongst the more important examples, a concern with formality is apparent in the Hindu complexes founded by the Ikshvakus. Little remains above base level at Nagarjunakonda or any other important early site in Andhradesha, with the exception of an apsidal *chaitya-griha* at Guntupalli and a circular one at Salihundam. However two apsidal vaulted structures survive virtually intact at Ter and Chezarla, both within the Satavahana's wide orbit. 53(a)

The shrine at Chezarla was divided into nave and aisles by stone piers but its exterior seems to have been unarticulated. At Ter there was no internal division but the walls are articulated with pilasters not unrelated to the posts represented in the frescoes of Ajanta. In the process of translation and retranslation into timber and masonry from the Mauryas' original Vedic interpretation of Persian forms, we have already seen the tassel-like binding at the top of the shaft take on the form of an inverted *kumbha*, echoing the base. In the Ajanta version this part of the capital has become an elegant *kalasha* with an extravagantly curved lip while at Ter it is a simple torus surmounted at the point of transition from support to load by a cyma recta. In the *shastras* the cyma recta and torus mouldings are called, most significantly, *padma* and *kumbha*.[21]

Hundreds of temples like those of Ter and Chezarla must have been built throughout India not only by the Buddhists but also by the Hindus even before the latter were backed by the resources of truly imperial patronage.

2 Fifth Century A.D. – Thirteenth Century A.D.

Buddhism Transformed and Eclipsed;Hindus Predominant

Introduction

Religious Developments

The great syncretic religion devoted to the concept of the trinity, embracing the forces of creation, preservation and destruction as Brahma, Vishnu and Shiva, had emerged from the impact of post-Upanishadic thought on Brahmanism by the beginning of the first millennium A.D. The most important strand in the development of 'Hinduism', as reformed Brahmanism was later to be called, was the descent of the deity from transcendence to imminence. If devotion to a personal God could alleviate the lot to the devotee in the cycle of transmigration, Hinduism, no less than Buddhism or Jainism, had to come to terms with the desire for total release, salvation. At the highest intellectual level sages attended to the rationalization and systematization of Upanishadic thought, but at the popular level wandering hymnists sang of the love of a personal God whose compassion subsumed the acquisition of merit and their impassioned devotionalism proved irresistible to the majority throughout the Subcontinent and even beyond.[1]

Filling the emotional void long felt in Vedism and responding to the same popular needs as the Mahayana, sectarian devotion involving image worship ultimately crystallized around Vishnu and Shiva separately as paramount deities and each gained vast followings to the almost total exclusion of the daunting Brahma. Vaishnavites and Shaivites were largely tolerant of one another: as both preservation and destruction comprehended creation and implied one another, none denied that the object of their devotion was an aspect of a single divinity – sometimes personified as Hari-Hara. Thus, too, room was found for the thirty-three traditional Vedic deities as well as a wide variety of popular *yaksha* cults. And the cult of the *shakti*, the activating consort of the transcendent god, descended from the Great Earth Mother herself, was the key to salvation.

Shiva is a complex of the fearsome and the benign. As the Great Lord (Maheshvara) whose procreative and potentially destructive energy motivates the cosmos, he is the omnipotent, all-comprehending Trimurti, worshipped through the phallus (*linga*) and carried by the bull, Nandi, inherited from his pre-Vedic ancestors. He is Mahakala, 'Lord of Death and Time'. He is Nataraja, 'Lord of the Dance', whose 108 permutations of rhythm encompass all the phases of the cosmic cycle. But in his mountain fastness of Kailasa he is the comprehender of order as the equipoise of the forces of creation and destruction, Dakshinamurti, the Universal Teacher and patron of ascetics, the fountain of art.

Vishnu is generally benevolent. Awakening from sleep on the coils of Shesha, the thousand-headed snake, in the primordial ocean when Brahma – the instrument of creation – emerged in a lotus from his navel, Vishnu became Narayana, the promoter of creation – the old role of Varuna. The blast from his conch was the excitement of life from the primordial sea; the trajectory of his discus at once generated time and menaced destruction. Carried on Garuda to his residence on his holy mountain, Vaikuntha, he observes the world, descending to save it in the various incarnations (*avatars*) through which he is worshipped: Matsya the Fish and Kurma the Tortoise, saviour of man and the Vedas and redeemer of the treasures of divinity from the universal flood; Varaha, Narasimha and Vamana, the Boar, the Man-Lion and the Drawf-Giant, overcomers of demon-challengers of gods and man; Parashurama and Rama, hero of the Ramayana, brave and vengeful son, faithful husband, just king, successor to Varuna as Dharmaraja; Krishna, hero of the Mahabharata, the preacher of the *Bhagavad-Gita*, the ideal Saviour; the Buddha, identified as a manifestation of Krishna; Kalkin, like Maitreya, the Saviour to come.

Shri Lakshmi, the consort of Vishnu and Goddess of Good Fortune, was amongst the treasures redeemed from the ocean by Kurma. Her origin as an *apsara* descended from the Mother Goddess seems clear: she may even be identified with the consort of Varuna, Lord of the Waters. The consort of Shiva, Mahadevi (the Great Goddess) is naturally as ambivalent in character as the Maheshvara himself. As Matha and Annapurna she is the Great Mother and Abundance. In the most benign of her many aspects she is Gauri the Pure, Sati the Virtuous, Parvati the Daughter of the Mountain, and may be identified with Varuna's River Goddess

47. Elephanta, Great Shiva Temple: Shiva Maheshvara.

Consort specifically as Ganga flowing from the mountains around Kailasa, the very source of *shakti*. As Minakshi she is the *yakshini*, daughter of Kubera, defender of the faith, who himself entered Shiva's service on Kailasa. But she is also the savage Durga and the bloodthirsty Kali. As 'Motivation', *shakti* belongs to all gods – that of each subsidiary deity (*avarana-devata*) being personified as a *yogini*, a 'Working Energy' subservient to the Great Shakti – and the Goddess is sometimes worshipped collectively as the Saptamatrika, the Creative Energy of the seven major Hindu deities. Naturally, in her varied forms, in conjunction with her various lords, she has innumerable potent progeny.

The product of a syncretic process embracing a wide range of roles and powers, the multiple identities of the Hindu deity in a multiplicity of forms distance the icon – never a mere image but a potential seat of Grace – from the realities of this inadequate world of appearances. Thus, while hybrids endow the figure with the attributes of relevant animals, multiple heads and arms express super-human importance. The details of human physiognomy cede to an idealization, governed by Brahmanical prescription, which ultimately promotes a formula for supreme beauty and arousing sexuality. Transitory human emotion and the accident of personality are equally irrelevant: transcendent facial expressions, rather, invoke character. The principal aspect of the deity as benign and compassionate or terrible and compelling, for instance, is reinforced through hand gestures reflecting the attitudes that underlay the earliest representation of transcendent being for the Buddhists. Beyond this, identity is established in the attributes of a particular manifestation of the deity: his vehicle (*vahana*) – Nandi of Shiva and Garuda of Vishnu, for instance; his weapons, such as the conch and discus of Vishnu; the whole corpus of *shakti* symbolism deriving from the 'Water Cosmology' and the very image of Shiva's procreativity, the *linga*. The deity's power is most graphically portrayed in episodes from the rich mythology inherited by Hinduism from the *Vedic* past, chosen as significant of divine intervention. *2 (c)*

About the middle of the 1st millennium A.D. heterodox *shakti* sects, both Buddhist and Hindu, developed a radically different way to salvation from the premise that cosmic force is generated by the interaction between male and female elements. Incorporating material of the most remote antiquity, their texts, Tantras, recognize emotion, stimulated through sensation, as man's most potent force and prescribe a *yoga* which, rather than suppressing it as in the traditional forms, develops and harnesses it. Though Buddhist and Hindu

Tantrics differed over abstruse questions of ultimate meaning and, therefore, over the significance of an often common symbolism, for both the primary object of the aroused emotion was a *shakti* descended from the Great Mother, the active agent of creation. Though divergent from the Mahayana, Tantrism was not incompatible with Hinduism and the ancient attitudes it incorporated are reflected in the *shakti* iconography of many temples.[2]

Tantrism was but one manifestation of the convergence of Buddhism with Hinduism. The Mahayana schools themselves, more and more abstruse in metaphysical speculation, ultimately subscribed to a pantheon hardly distinguishable from the Hindu when Buddha was recognized as the ninth *avatar* of Vishnu. Slowly the Buddhist intellectual elite, as well as the laity, were absorbed into the dominant Hindu culture and the final blow was dealt by the Muslim invaders who set themselves to extirpate monasticism and the outrageous practices which Tantrism encouraged them to believe it fostered. By then the Jainas, too, had ceded most of their ground to the Hindus but managed to retain a foothold in the mountains of the west and south even after their last major patrons had succumbed to the Muslims.

Hindu Worship and the Formula for Sacred Building

The Hindu deity whose grace is invoked for salvation, is worshipped in the form of an image or symbol sanctified to fit it for the god's residence. As in the earliest native cults, worship is primarily the sacrifice of service and sustenance. Like a supreme personage, the deity incumbent in His image is awakened from the sleep of non-manifestation, greeted with flowers, bathed, anointed, adorned, fed, honoured in accordance with the tradition of circumambulation, entertained with dancing, confined with his wife and paraded through the town in a glorious car (*ratha*) on festival holidays.[3] 13(c)

Worship is not congregational: it is performed by the

48. Deogarh, Dashavatara Temple: Vishnu Narayana. Shri Lakshmi is seen in attendance with her sister River Goddess (left); Parvati is seen with Shiva on Nandi (upper right).

2(c) individual (*pujari*) as he wills or more regularly at the principal times of day by the priest whose caste and consecration fit him to represent the community at large. In practice, therefore, it requires the provision of little more than a cella 53(h); (*mulaprasada*), a porch (*praggriva*) and perhaps a vestibule 113(c) (*antarala*), to house the image and shelter the individual devotee, with a hall or pavilion (*mandapa*) large enough for ritual dancing or banqueting.

Given no clear distinction between Hindu religious and secular life, beyond provision for worship, the temple is the centre of intellectual and artistic endeavours, promoting the development of painting, sculpture, architecture and the performing arts as well as philosophy and theology. As the nucleus of the community, as hostel, hospice and hospital, sanctuary and school, its expansion over the centuries provided the facilities needed to feed and shelter priests, pupils and the poor, as well as the often extensive bureaucracy that handled its endowments, managed its estates, administered its charities and employed its servants. However, of course, the building of the Hindu temple goes far beyond mere practicalities.

As the residence (*vastu*) of god, the theatre of sacrifice of service and sustenance, the temple is a place of epiphany where the operation of god's grace, his descent from transcendence, is effected through his *shakti*. Thus its sanctum is called 'womb chamber' (*garbha-griha*) because the interaction of *shakti* and deity, the gestation of grace, takes place there. Thus too, the site is inseminated before construction to gauge fertility and sanctified seed is ritually deposited in the *garbha-griha* at consecration.

The temple is a place of pilgrimage as venerable, as the seat of god, as the image within it. Ideally pilgrimage is to the Holy Waters at a *tirtha*, a spiritual 'fording place', providing purifying and regenerative passage through those waters as initiation to salvation. Thus the temple is a *tirtha* and its natural site is by the sacred waters of a river – often, in practice, in the vicinity of the grove or pool of some time-honoured *yaksha*. In addition water is ritually introduced to the sanctum in a pot or pitcher (*kumbha* or *kalasha*) during the consecration rites and tanks are constructed to collect rain water for the obligatory ritual ablution. The regenerative passage through the waters is most potently symbolized in a 3 succession of portals redolent with the forms and fertility images of the 'Water Cosmology', and the spiritual momentum generated by passage through them, culminating in contact with the image in the sanctum itself only for the priest, is diverted into the total immersion of circumambulation for the lay worshippper.

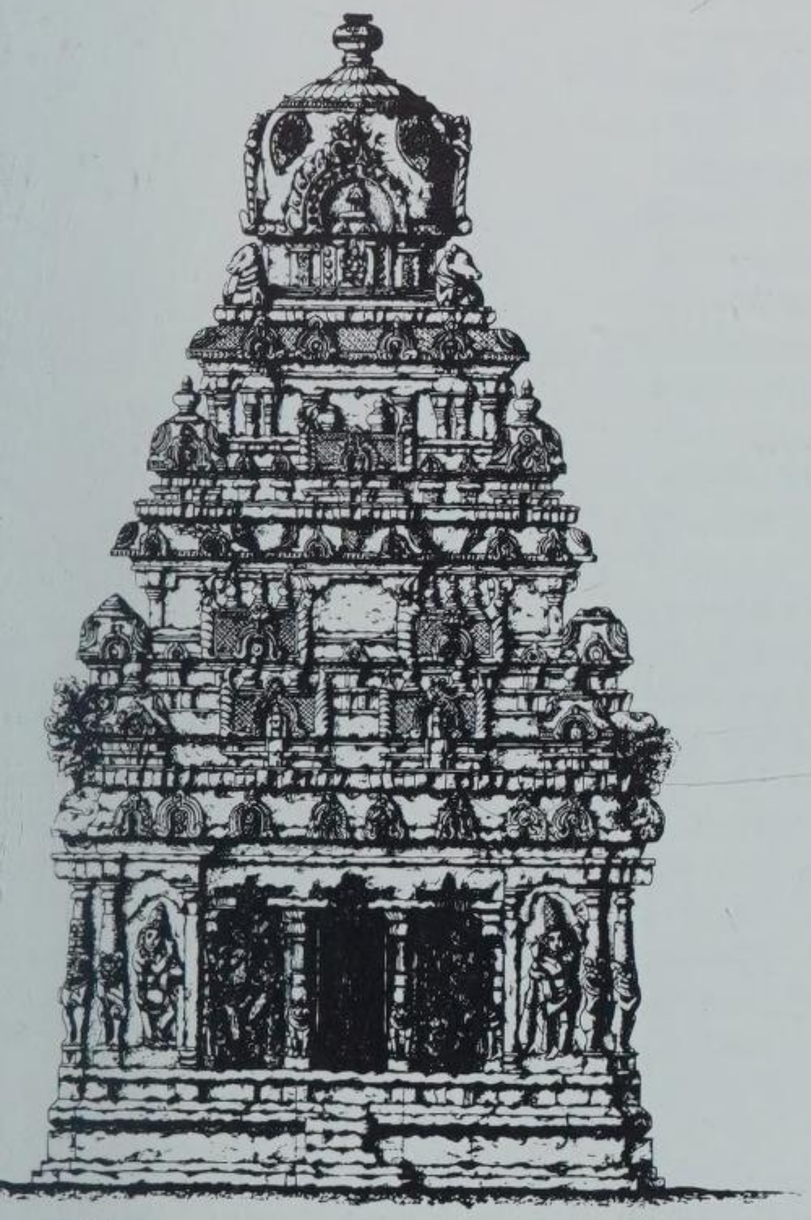
The culmination of the momentum developed along the ground plan in and around the *garbha-griha* represents one great strand in the tradition of Hindu temple architecture, following the precedent set by the Buddhists in particular in creating or adapting caves as wombs of grace. This is reflected also in the hewing of the complex exterior ordonnance and iconographical programme from assembled block-work or even from the living rock itself. Though the mastery of masonry and the ability to handle widely differing hard and soft stone is a key to the development of the major schools of Hindu temple architecture, representation rather than structural innovation was always the main concern of Hindu architects. In the conception of what was to be represented in the mass itself, the other great strand of the Hindu tradition concerns itself with a vertical momentum, sending superstructures rearing to heaven as the image of the residence of the Purusha in the time-honoured terms of palace (*prasada*) and mountain (Meru – or Kailasa or Vaikuntha).

Though a princely patron might be as interested in fame as in the spiritual welfare of his subjects – and increasingly ambitious temple building to commemorate notable dynastic success was to be a major preoccupation of most Indian rulers – the building of a temple was a sacrificial act earning the builder merit in accordance with the durability of its materials. The Vedic ideal of the constitution of the Purusha still governed the exercise, though the theatre of worship (*puja*) rather than the flame of the sacrifice (*yajna*) was to rise from its base. The place of contact between man and God must be identified with the form of the universe, its inception the subject of astrological calculation, its plan determined by sacred mathematical formulae relating the structure of the universe, the constitution of the Purusha.

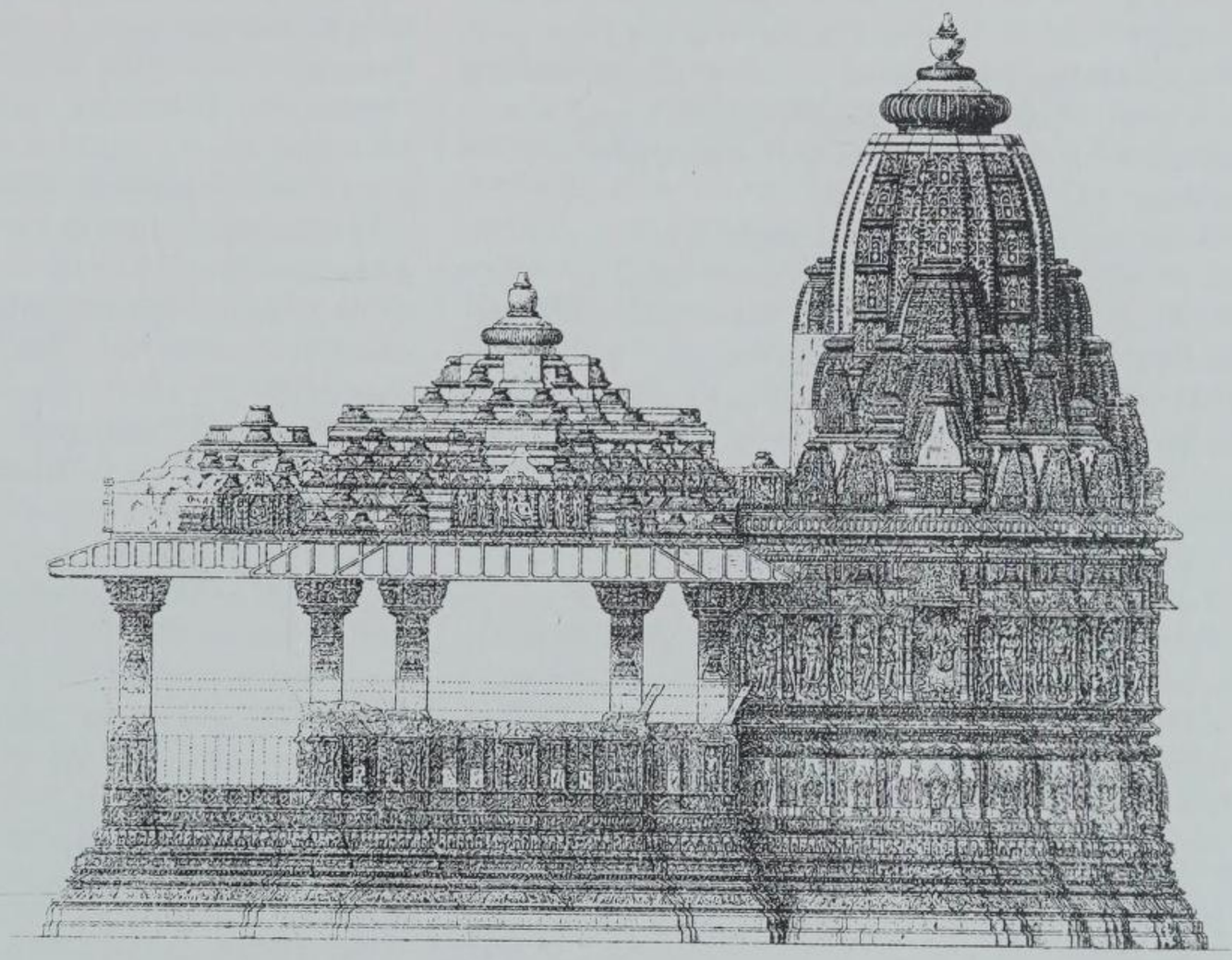
If the Altar was the body of the Purusha constructed in the metaphysical terms of number to which the geometrical formula of the *mantra* provides the key, the Temple as his seat and image, is constructed in the physical likeness of palace and mountain invested by the gods in accordance with the *mandala* to which the sculpture provides the key. 5 Thus the *vastu-purusha-mandala* (the formula for sacred building) remained the first concern of the Hindu science of architecture (*vastushastra*), one of the most important branches of the Hindu literary tradition. It also guaranteed that, despite important regional differences, there was a strong measure of consistency in the conception of the temple, in whole and in part, throughout the Subcontinent.[4]

Vastushastra orchestrates the essentially metaphysical rhythms of plan and elevation, it deduces a system of proportions, plots the position and orientation of the temple in accordance with its dedication and specific site conditions, and regulates all iconographic considerations in the representation of the aspects of the Purusha, elucidating the identity of the mass with the cosmic order. Though it took five centuries of complementary effort for theorists and builders to realise its full implications, from the middle of the first millennium A.D. the *vastu-purusha-mandala* was elaborated in an expanding series of patterns produced by the accretion of squares within the determining square, despite the

49. The Hindu temple: **(a)** Kanchipuram, Matangeshvara, entrance front; **(b)** Sunak, Nilakantha, side elevation; **(c)** Kuruvatti, Mallikarjuna, entrance front.



49 (a)



49 (b)

49 (c)

immutability of the relationships between the constituent elements – as of the cosmic order. Ultimately the whole arithmetic series from 1 to the square of 32 was admitted, but complex metaphysical analysis isolated the 8th and 9th *mandalas* – of sixty-four and eighty-one squares – as the most important.

In devising the appropriate *vastu-purusha-mandala* for a specific project, the priest-architect must reconcile the series of calculations upon which the Hindu conception of proportion depends. Beyond a rational concern with the physical relationship between the parts and between those parts and the whole, the overriding objective is the spiritual one of reflecting the harmony of number in the cosmos, the *vastu-purusha* – just as in the representation of the *vastu-purusha* in the massing of the work, it is to organize the parts for serial climax rather than equipoise. The calculations incorporate the proposed dimensions of the building – which, of course, are variable – and the auspicious date and time of foundation, in an integrated series of fractions. These are likely to produce imperfect numbers. As imperfect number reflects the imperfections of this world, the dimensions must be varied – even a new auspicious date and time chosen – until, in accordance with set formulae, the product equates with the numbers from the series 0 to 7, representing the eight directions of space, appropriate for the residence of the caste of the founder and for the orientation of the work – 4 for the west or, ideally, 0 for the east.

Hand in hand with iconographical elaboration, which itself went hand in hand with the development of devotional Hinduism, went the endowment of structural form with symbolic value. Brahman is now usually personified as Shiva or Vishnu, sustainers of Brahma, the living presence (*jiva*) in the symbol or image of the Brahamasthana – the *garbha-griha*. *Shakti* permeates the temple from the *kumbha*, immured in its base with lotus and tortoise to the *kalasha* which forms its finial. Personified as the consort of the dedicatee, the *shakti* motivates the *jiva* to emanation as Divine Grace. Endowing the devotee at the portal, this is manifest as the deity's principal accessory aspects (*parshva-devatas*) in 'blind doors' (*ghana-dvaras*) at the cardinal projections to the other sides of the temple's cella. These might be the three persons of the trinity, *avatars* of Vishnu, faculties of Shiva, or the *shakti* herself. Stepping forth dynamically from aedicules (*deva-koshtha*) in the increasingly complex system of vertical and horizontal projections produced by five centuries of development in the diversification of the mass, are more and more subsidiary members of the pantheon (*avarana-devatas*) – above all the guardians of space (*ashta-dikpalas*) regulators of time, controllers of the destinies of men. Attendant in niches (*rathikas*), ultimately, are myriad *yogini*, Cosmic Power and its stimulation being represented as the virile *shardula*, the indolent damsel (*alasa-kanya*), the Heavenly Dance of celestial *apsaras* and the *mukti* to which it is all directed, the New Birth of Salvation, as Release – synthesized by the *mithuna*.[5]

The process of endowing the structural forms with symbolic value may well be traced in the evolution of the temples' tiered base. Initially, a simple stepped stylobate was 95; 115
sometimes surmounted by a recessed zone (*kantha*) with or without dentils representing joists, beneath a projecting slab (*pattika*) representing the floor. This was taken through a series of elaborations that introduced familiar 'Water Cosmology' and Vedic symbols to its elements. The earliest and most pervasive formula was to round off the top corner of the lowest slab to form a hoof-like footing called *khura*, to fill the recession with a bold torus significantly called *kumbha or kumuda* in reference to the *shakti* pot of sacred water upon which the work was founded and to provide protection with an eaves-like drip course called *kapota*. Further elaboration transformed the *kumbha* into an elegant *kalasha* and added cyma recta (*padma*) and astragal (*karnaka*) mouldings which recall the lotus and tortoise immured with the pot in the foundations. The northern and central schools, moreover, superimposed *pattika* as multiple zones for friezes of sacrificial animals, symbolic or heraldic beasts and narratives relevant to the patron.

The process of translating structural into symbolic form is perhaps most dramatically illustrated in the evolution of the superstructure. Initially of superimposed cells or slabs, this was first modelled on the multi-storeyed *prasada* that formed the nucleus of early palaces, or its monastic derivative (*vimana*) – the Palace of the Gods, the levels representing the stages of Grace. This approach survived in the Dravidian south, where the storeys were marked by open terraces bordered with cell-like pavilions (and called *vimana*). It was taken through a series of progressively abstract permutations elsewhere to produce the variety of northern forms (called *shikhara*) which reflect the imagery of the mountain – specifically the many-tiered Meru, Kailasa or Vaikuntha – encountered in the *shastras* from the very earliest reference to the superstructure of temples. The west-central hybrid schools cross-fertilized these two traditions in a synthesis of palace and mountain imagery that reflects attitudes of mind at least as ancient as the mystical identification of Indra's *yashti* with the *axis mundi,* with the Cosmic Mountain Meru, and of Meru itself with the *Prasada* of the Gods.

Even the elements of the traditional timber structural system, indeed, provide the basic armature not only of aesthetic unity but also of the 'Water Cosmology' symbolism of *shakti*. The echinus and tassellated binding which once protected timber posts from splitting were translated into lotus and pot (*padma* and *kumbha*), as we have seen. To these were soon added the vase or pitcher (*kalasha*) with trailing foliage, representing the Bowl of Plenty (*purna-kalasha*). Arches (*torana*) over doors, window or niches,

once presumably of bowed bamboo, assumed the form of the *makara* while the characteristic lunette or horseshoe dormer (*gavaksha*) and its blind diminutive (*nasika*) became the *kirttimukha*, especially over the principal projections. The frames of the principal portal and the 'blind doors' which echo it, originally of several branches (*shakha*) tied together for strength, became elaborate proscenia for the deity's display. The main *shakha*, flanked by guardians (*dvara-palas*), is usually architectonic and, reflecting the same *prasada* or *vimana* image as the structure itself, perpetuates the identity of god in epiphany as king in audience. Multiple accompanying *shakhas* with River Goddesses, specifically Ganga and Yamuna, and images of fecundity or generation, notably lush creepers (*patra-lata*) of *padma* origin and *mithunas*, establish the 'Fording Place' as one of new life. Thus the *tirtha*, the Theatre of Grace, the reconstituted Purusha, pulsating with the power of *shakti*, is redolent with the regenerative essence of the waters throughout.[6]

The Pattern of Patronage

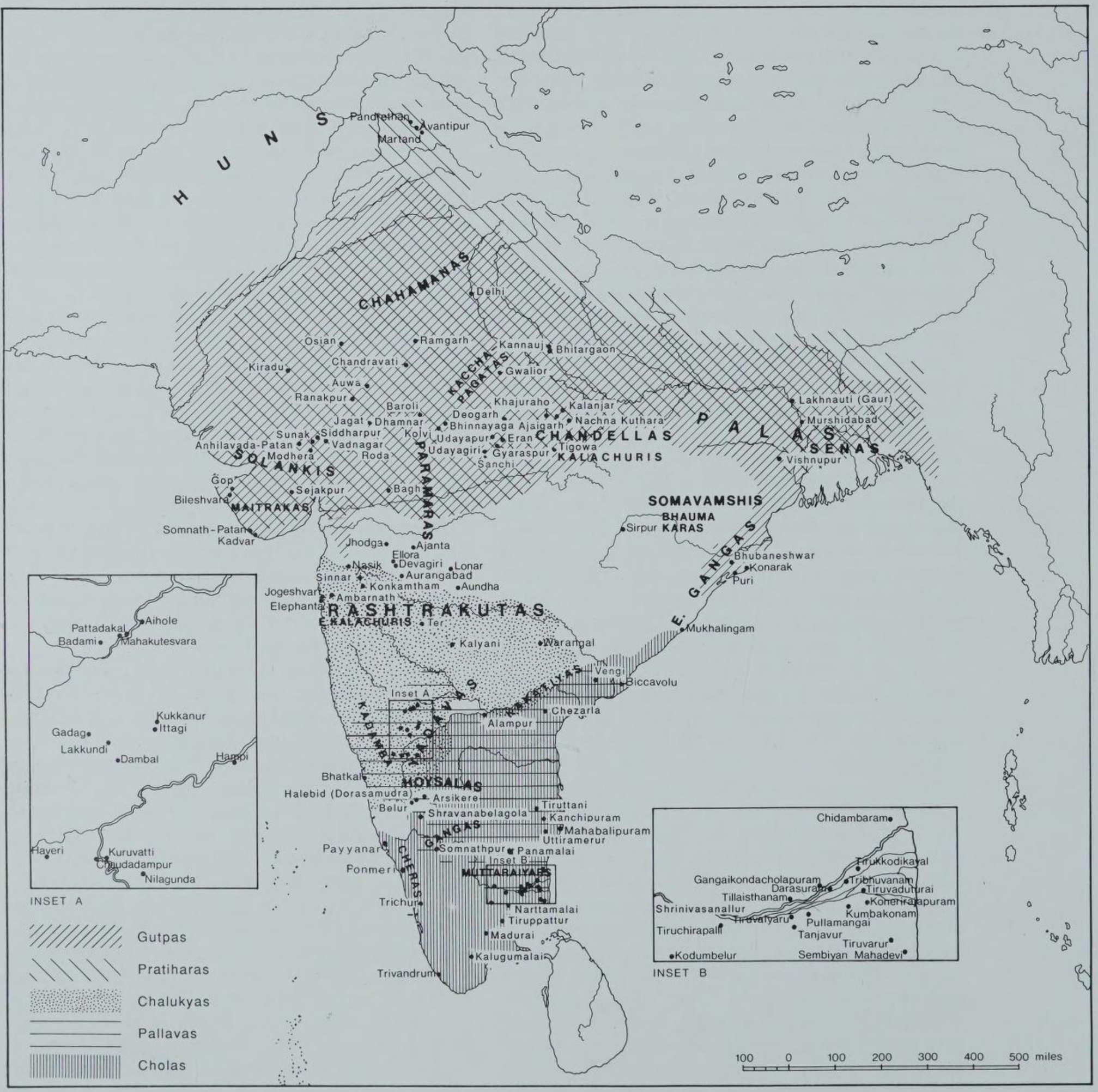
The declining Kushanas were to cede most of their territory east of the Punjab to local powers. The lower Ganges basin, the eastern periphery of their empire, went to the Gupta, a Magadhan family of obscure origin. Its head, Chandra Gupta, assumed the Kushana title Maharajadiraja (Great King of Kings) in about A.D. 319. Rivalling the Mauryas, his son and successor Samudra (c.335–376) re-established Pataliputra as an imperial capital and boasted in an inscription on the Mauryan *stambha* at Allahabad of establishing an empire embracing the entire Subcontinent – though it is unlikely he extended direct control beyond the Ganges basin. To his dynasty's ultimate cost he broke republican regimes in the Punjab but it is not clear whether he defeated the Kushanas in Gandhara. Chandra II (376–415) – a great patron of art like his father – ousted the last Shakas early in the 5th century and annexed western India. The Cholas of the south were beyond the Gupta sphere of influence but the marriage of Chandra's daughter Prabhavati to the Vakataka Rudrasena, whose northern Deccani Kingdom was centred on Nasik, completed a network of contractual relationships which secured the Empire's south flank throughout the reign of Kumara (415–454). Knowing a longer period of peace and consequent prosperity than any other ruler in the Subcontinent since Ashoka, Kumara presided over the maturity of one of the greatest phases in Indian cultural history – painting, sculpture, music and literature were brought to a degree of excellence which set the standard for later ages. The dynasty was Hindu and Hinduism flourished under it on both the intellectual and popular levels – and to serve it the basic forms of the temple were stated in most refined terms.[7]

Kumara's successors, faced with the threat of new tribal invasions in the north-west led by the Huns, were not so fortunate. Weakened, in protracted fighting with the Huns, the later Gupta lost control over their clients and little beyond the Ganges valley was left to them by the end of the 5th century. The Hun leaders initially ruled as viceroys for an emperor in Afghanistan but on his advent in 520 the notorious Mihirakula asserted his autonomy and vented a savage iconoclasm on the Buddhists in particular. The blow was crippling, coming as it did after several centuries in which the *Sangha* had not enjoyed official patronage or expanding mercantile support but had compromised itself with Hinduism. With neighbours, the Guptas raised a final effort and drove Mihirakula into Kashmir, where he died about 542, but the price was final exhaustion and political confusion.

Smaller tribes had slipped into India under the Hun cloak and they capitalized on the situation to win domains for themselves in Ragasthan and Gujarat. Ultimately the Pushyabhuti, from north of Delhi, gained ascendancy and from 606 their greatest leader, Harsha, conquered all significant powers from the Maitrakas of Kathiawar to Shashanka, reputedly the first king of Bengal. Establishing a network of 'feudal' ties on the Gupta model he ruled from a brilliant court at Kanauj. Harsha was pro-Buddhist, in contrast to Shashanka, and the *Sangha* enjoyed a period of respite sustained in the next century under the Palas. On his death some 41 years later, Harsha left no successor strong enough to hold down the 'feudatories' but Kanauj was to retain the prestige he had given it as the cultural centre of north India until devastated by the Muslims.

The Vakatakas declined with their allies the Guptas and had been supplanted in the Deccan by the so-called Early Kalachuris of Maharashtra and Early Chalukyas of Aihole and Badami by the middle of the 6th century: they were to be responsible for the first flowering of the Hindu architectural tradition beyond Gupta domains. The Ikshvakus of Andhra-desha succumbed to the Pallavas of Kanchipuram who had eclipsed the Cholas in the south by the 4th century. The great age of the Pallavas opened with the reign of Mahendravarman I (c.580–630): initially Jaina, his conversion to Shaivism was a major disaster for Jainism but initiated the great southern Hindu rock-cut tradition. Confronted with the aggressive Chalukyan king Pulakeshin II (c.610–642), who had overcome most of his neighbours, raided Kalinga and even dealt Harsha his most serious reverse, Mahendravarman lost Andhradesha in the opening phase of protracted rivalry between the two dynasties. Pulakeshin sent his brother to be viceroy of the newly won eastern province at Vengi and from him a separate Chalukyan line descended. Narasimha-varman I Mamalla (c.630–668) regained some lost Pallava ground and pressed his success home, killed Pulakeshin and occupied Badami in 642. Some thirteen years later the Chalukyas recovered under Vikramaditya I (c.655–681) who drove the Pallavas from Badami and occupied Kanchi. In the renewed rivalry, power and fortune were equally

50. India: 5th century – 12th century A.D.



matched and territory gained by either dynasty could not be held, but it fostered interaction between the Aryan culture of the north and the essentially non-Aryan south. At the close of the long and relatively peaceful reigns of the Chalukya Vijayaditya I (696–733) and the Pallava Narasimha-varman II Rajasimha (c.690–728) during which the southern Hindu school of architecture reached its first maturity, Vikramaditya II (733–744) again took the Chalukyas to Kanchi and killed Parameshvara-varman II (c.728–731). A cadet branch of the Pallavas succeeded under Nandi-varman (731–796) but the Pandyas of Madurai were the principal beneficiaries in the south and were a power to be reckoned with from the 8th century.

Meanwhile, the Chalukyas had to face a new threat: Islamic forces had conquered Sind in 712 and were now pressing on the north-western frontiers of their domains. Coming on top of the renewed Pallava war, the containing of this threat exhausted them and their former feudatories, the Rashtrakutas, seized the chance of asserting their independence in 757. The zenith of their rule was reached under Amoghavarsha (817–877), a distinguished patron of the Jainas, but during his long reign the Chalukyas regrouped. By the end of the century the Cholas of Tanjavur had supplanted the Pallavas in the south-east with the aid of the Pandyas and they combined with the Chalukyas in the third quarter of the 10th century to dismiss the Rashtrakutas, weakened in conflict with their northern neighbours. The Chalukyas regained predominance in the Deccan, ruling from Kalyani, but they maintained a somewhat tenuous control over their peripheral feudatories – the Yadavas of Sinnar and Devagiri in the north, the Kakatiyas of Warangal in the east, and the Hoysalas of Dorasamudra who had risen to local power on the basis of brigandage in the lower Western Ghats.

The zenith of Chola power, prosperity and cultural brilliance was reached with Rajaraja I the Great (985–1014) and his son Rajendra I (1014–1042) under whose expansionist policy past friendship with both the Pandyas and the Later Chalukyas was forgotten: the Pandyan capital of Madurai was occupied and the Chalukyas' southern provinces annexed. Rajendra's ambitions extended to the Ganges and Ceylon and even to Sumatra to protect trade with China – yet the Cheras close-by in the south-west managed to preserve their long, unaggressive independence. The later Cholas could not maintain such far-flung activities and confined themselves to the more traditional spheres of rivalry with the Chalukyas on the one hand, the Pandyas on the other, and the fortunes of each waxed and waned in the usual way. The Cholas ultimately broke Chalukyan power towards the end of the 12th century but at the cost of their own exhaustion and the Yadavas, Kakatiyas and Hoysalas were the beneficiaries. Having consolidated their hold on the Chalukyas' western provinces and established a capital at Lokkigundi (Lakkundi) by 1191, the Hoysalas attacked the Cholas while the Pandyas reopened hostilities on the southern front. In the mid-13th century the Pandyas were supreme in the south-east but the Hoysalas had to abandon Lokkigundi to the Yadavas and retire to Dorasamudra. The Yadavas dominated the Deccan and the Hoysalas maintained Mysore until the sultans of Delhi destroyed them both in the 14th century.

The goal that had attracted the Rashtrakutas in the 9th century was Kanauj, then the centre of a power-vacuum but coveted by all with imperial ambition in northern India. The Rashtrakutas had to contend for it with at least two newcomers, the Pratiharas and Palas. The Pratiharas emerged from the clans, generally called Rajput and tracing their descent from the Sun or Moon, which seem to have constituted the Gurjara tribe that entered India in the wake of the Huns – the others were the Solankis (Chalukyas), Paramaras (Pawars) and Chahamanas. Successful at the outset in countering the thrust of the Arabs in Sind, the Pratiharas had captured Kanauj by the end of the 8th century. This brought them into contact with the Palas, the Buddhist dynasty of obscure origin which had replaced a second Gupta line in the lower Ganges basin. Dharmapala (770–810) wrested Kanauj from the Pratiharas and his successors, supreme in the east, developed already existing commercial relations with Buddhist powers in Tibet and South-East Asia – where Buddhists fleeing from the onslaught of Islam in later centuries were to find refuge.

Kanauj was in fact regained by both the Pratiharas and the Rashrakutas early in the 10th century but the effort, leaving the Rashtrakutas exhausted before the revived Chalukyas, undermined the Pratiharas' stance against the forces of Islam and Mahmud of Ghazni finally overwhelmed them early in the 11th century. Content with booty, Mahmud did not press further east and the Palas re-embarked on a policy of expansion westward. The last great Pala king, Mahapala, drew back to defend Bengal from the Chola Rajendra. Weakened, the Palas succumbed to the Hindu Senas from Orissa who were responsible for the last brief efflorescence of native glory in the east. Though the new regime was not favourable to it, the *Sangha* subsisted in the Buddhist homeland until it received its final blow when the Senas were dispatched by the Muslims at the end of the 12th century.

After the fall of the Pratiharas the Solankis, who controlled Kathiawar and Gujarat, came nearest to re-establishing a comparable power but they were contained on the east by the Paramaras, who had eluded the Later Chalukyas and established a kingdom in Malwa at the end of the 10th century, and on the north by the Chahamanas, who asserted their suzerainty over lesser Rajputs in much of modern Rajasthan and went on to dispossess the Tomaras of Dillika (Delhi). Between these three powers, other lesser Rajputs – the Guhilots of Chittor for instance – sustained a measure of independence while the Kachchhapaghathas of Gwalior, the

Chandellas of Khajuraho and the Kalachuris of Tripur shared former Pratihara, Rashtrakuta or Pala domains in modern Madhya Pradesh. Meanwhile on the northern periphery of the former great powers, Kashmir sustained an idiosyncratic independence which had reached its peak in the 8th century. In the eastern Utkala, Tosala and northern Kalinga (modern Orissa) had been forged into a kingdom by the Somavamshis of Koshala, who displaced the Bhauma Karas of Utkala early in the 10th century and were themselves displaced early in the 12th century by Gangas obscurely related to the power that had ruled in Mysore before the Hoysalas. Under the Solankis and the Chandellas, temple building and sculpture reached peaks equalled – in so far as the accidents of survival testify – only by their Somavamshi, Ganga and great Chola contemporaries.

51. Sanchi, 'Temple 17' from north-west.

52. Udayapur, Mahadeva Temple from south-east.

The Temple

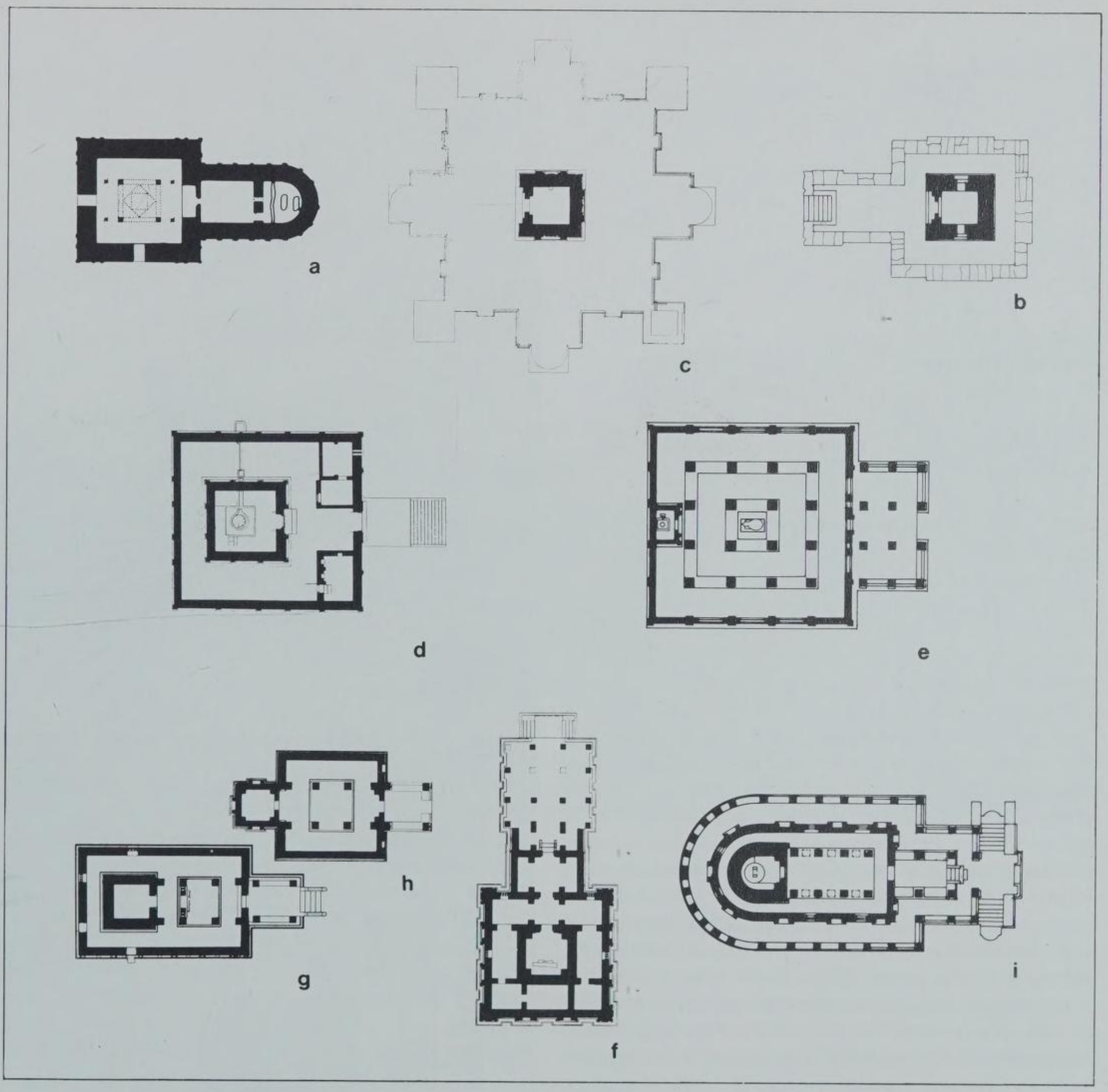
Early Structures in Gupta Domains

Gupta inscriptions testify to extensive building activity but few of its products have survived time and the Muslims: in these, however, the first maturity of stone temple construction is apparent. Formal revisions of the type of image shrine which proliferated in the great Buddhist foundations of the Kushanas and Satavahanas, the earliest Gupta structures of finely dressed ashlar are best represented by 'Temple 17' at Sanchi and the Kankali Devi at Tigawa. Similar in conception but part-excavated, part-structural, a series of shrines at Udayagiri - near Vidisha where the craftsmen employed by the Buddhist Sangha at neighbouring Sanchi came from - are the earliest datable Gupta works: one was inscribed under Chandra Gupta II early in the 5th century and another records the Emperor's visit to the site.[8]

The flat-roofed *mulaprasada* and *praggriva* are based on a simple stepped stylobate and bound together by a continuous architrave, though otherwise there is no attempt to disguise the junction. Except perhaps for the faceting of columns – and the projecting blocks of the lintel at Tigawa – imitation timber-work is no longer important. Ornament is concentrated on the door frames, apart from fully evolved Hindu iconic reliefs carved on back walls or *padma* motifs on ceilings at Udayagiri. The river goddesses Ganga and Yamuna invariably form lintel brackets recalling the *yakshini* of the Sanchi *toranas*. At Tigawa the door frame has three jambs, two with abstract patterns, but in several of the Udayagiri works pilasters and figural motifs, including *dvara-palas*, are introduced. At Sanchi the columns still clearly conform to the Mauryan type, suggesting that 'Temple 17' may be the oldest of the series, but at Tigawa and in several of the Udayagiri works, the tassel-like member of the capital has become a *purna-kalasha*.

The limited number of shrines to survive, in whole or in part, from the later 5th century state the principal themes to be developed over the next half millennium of Indian temple architecture: the differentiation of the plane of the wall first with a central projection (*bhadra*) to each exposed side, then with intermediate ones (*pratirathas*), and the 'opening' of 'blind doors' (*ghana-dvaras*) in the centre; the elaboration of the socle to include mouldings symbolic of the sacred objects immured in the foundations, first the *kumbha* resting on a *khura* and sheltered by a *kapota*; the erection of a superstructure to assert the predominance of the sanctum; the definition of a circumambulatory path.

Eran, where a colossal Varaha sculpture group in particular is clearly related to the work at not far distant Udayagiri, has several monuments datable from their inscriptions to the second half of the 5th century. Amongst the most significant is a Garuda column – with a dedicatory inscription to Vishnu datable to 484 – which repeats the permutation of the Mauryan Order used for 'Sanchi 17'. The Vishnu temple at the site marks an important step away from the simple square *mulaprasada*: a shallow projection distinguishes the central bays of the back and side walls; a broad podium provides for circumambulation, as in the Kankali Devi at Tigawa.



53. Temple plans I: **(a)** Ter; **(b)** Nachna-Kuthara, 'Parvati'; **(c)** Deogarh, Dashavatara; **(d)** Bileshvara, Vishnu; **(e)** Aihole, Lad Khan; **(f)** Aihole, Meguti; **(g)** Aihole, Huchchimallagudi; **(h)** Aihole, Narayana; **(i)** Aihole, Durga.

Despite experimentation with circular and octagonal forms in such later works as the Maniyar Math at Rajgir and the Mundeshvari at Ramgarh, the square *mulaprasada* with projecting central bays was to remain standard, though one or more intermediate bays were often interpolated. Several small shrines at Ramgarh, Chhapra and Badoh closely follow the Eran example but they are amongst the earliest to be embellished with *ghana-dvaras* and in some of them pilasters comparable to the piers of the portico frame the corners. Early shrines at Udayapur and Makanganj, comparable in basic conception and execution to the earliest Gupta works, well represent the next stage of development. At Udayapur a string course with lozenge mouldings divides the walls into two registers over a diversified base and under a prominent *kapota* with an additional slab which suggests an incipient superstructure. At Makanganj, several slabs superimposed over the *kapota* and embellished with miniature blind lunettes, form a stepped pyramid.

In so far as the accidents of survival testify, the culmination of this early phase is in the so-called 'Dashavatara' at Deogarh in Malwa. On a broad podium, the five-shrine (*pancha-yatana*) form of complex, popular throughout Hindu building

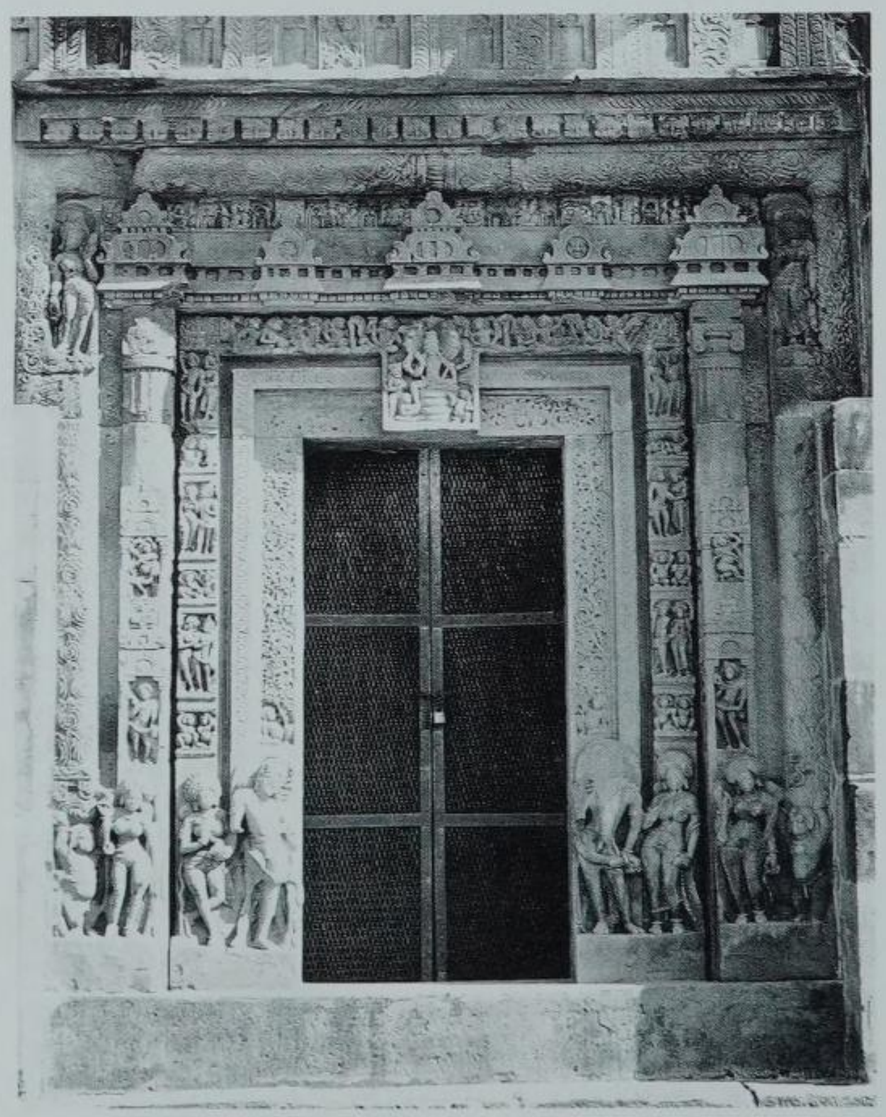
53(c)

54. Deogarh, Dashavatara Temple: **(a)** from south-west; **(b)** portal detail.

54 (a)

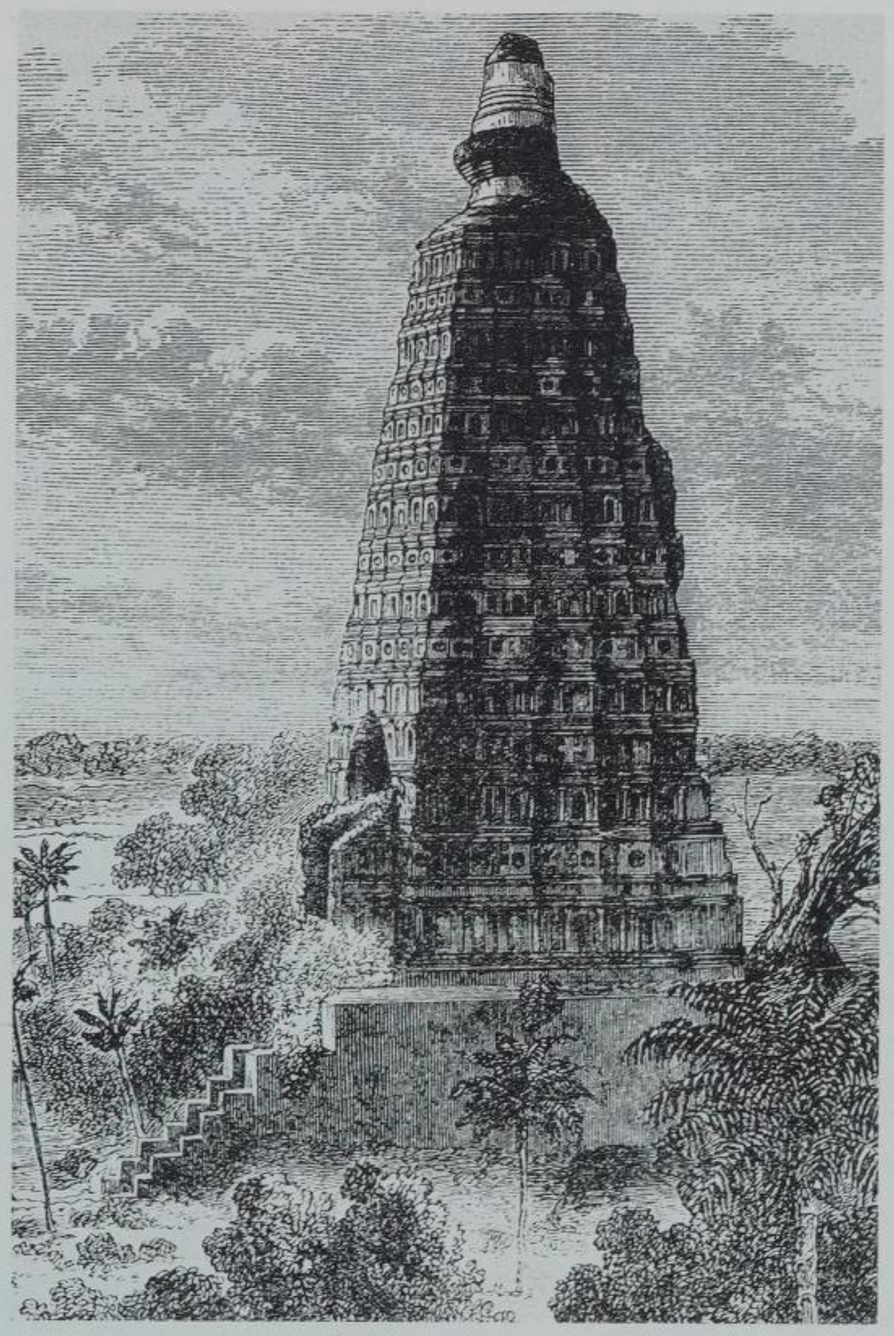
history, appears fully evolved. Steps at the cardinal points interrupt putative *khura, kumbha* and *kapota* mouldings echoed at least by the base of the three-bay central *mulaprasada*. This is crowned by a much-damaged mass of graded tiers projecting in response to the central bays below. If reliefs in the door frame depict the shrine in miniature, as fragments of the superstructure suggest, the whole was surmounted by an *amalaka* and between subsidiary *amalakas* at the corners, rows of miniature blind lunettes predominate, indicating that the model was the multi-storey *prasada*.[9]

The magnificent entrance portal, one of the masterpieces of early Gupta decorative art, is framed by progressively recessed jambs. The outer one, embracing the Ganga and Yamuna figures at the top, and the two innermost ones, rising from *dvara-palas* and interrupted by the keystone bearing Vishnu enthroned, are lightly incised with stylized *padma* motifs. Figural reliefs of moderate depth play an important part in both the remaining intermediate jambs though the main one is architectonic, with faceted *purna-kalasha* pilasters carrying a gable-roofed gallery in an elaborate representation of a *prasada* pavilion sheltering the enthroned deity. The *ghana-dvaras* contain superb high reliefs of Vaishnava subjects and Vaishnava reliefs embellished the podium between pilasters over a base incorporating *kumbha* and *kapota* like that of the main shrine. Blocks at the foot of the superstructure suggest that the



54 (b)

55. Bodh Gaya, Mahabodhi Temple: **(a–b)** from north-east before and after 19th-century restoration.



55 (a)

55 (b)

entrance portal and *ghana-dvaras* may each have been protected by a portico.

The broad podium at Deogarh provided for circumambulation but the earliest known fully developed examples of the *sandhara* form of temple – that is, with a covered gallery around the sanctum – are found in the Shiva temple at Bhumara and the so-called 'Parvati' temple at Nachna-Kuthara. At Nachna, where the base is rusticated perhaps to suggest Shiva's mountainous abode, a square upper chamber based on the inner walls and covered with a flat roof, rises well above the gallery to distinguish the sanctum.

53(b)

The introduction of an upper shrine chamber facilitated the development of *shikhara* construction by greatly reducing mass and weight. It is a feature of such large scale works as the Mahayana shrines of the Buddhist Holy Land which took the elaboration of the primitive image-shrine to rarely exceeded heights – a process parallel to that through which the original simple *stupa* form was taken under the Parthians and Kushanas. The only substantial extant representative of these great structures is the Mahabodhi Temple at Bodh Gaya which was founded to house an image of the enthroned Buddha in place of the primitive empty throne on the site of the Buddha's Enlightenment.[10]

The result of many restorations – the last and perhaps most unfortunate in the late-19th century – the Mahabodhi still resembles the building described by Hiuen Tsang in the 7th century: the equivalent of some 50 metres high and 20 metres broad, it was built of bricks and coated with lime, it had tiers of niches with gold images, its walls were adorned with exquisite carvings of pearl strings and genii and on its roof was a gilt copper *amalaka*; connected with the east side of the temple were three lofty halls one behind another. The principal image chamber, preceded by a prominent porch, supports the tall, truncated pyramidal *shikhara* containing another cella. The *pradakshina-patha* below is reflected in the open terrace above. The multi-storey *prasada* clearly provided the model for this superstructure, each storey dominated by a dormer which penetrates up into the zone of the one above. At the corners of the terrace small replicas of the main *shikhara* were constructed during the 19th-century restoration apparently by analogy with the remains of the

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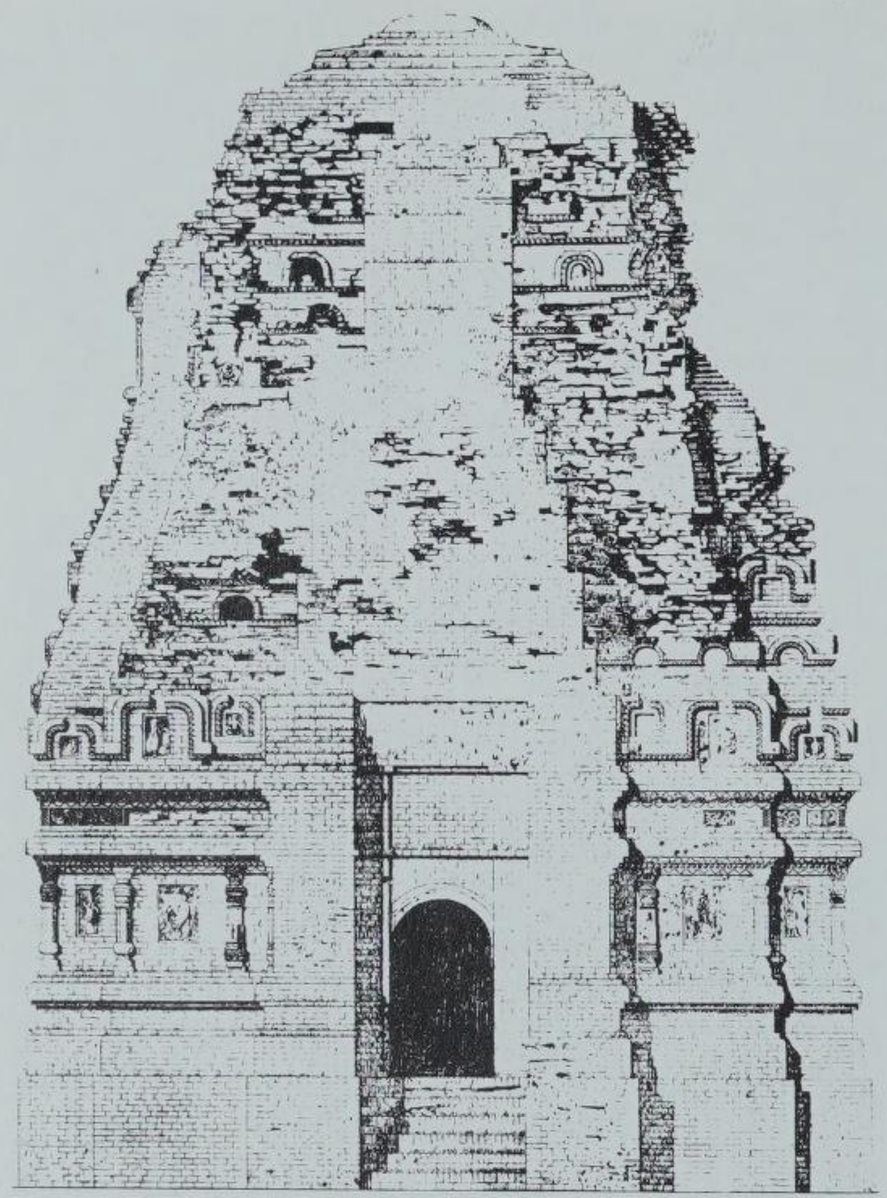


56

so-called 'Stupa-temple III' at Nalanda. There a small *stupa*, perhaps Ashokan, was enveloped in brick and terracotta some six or seven times before Hiuen Tsang noted that, in size and ornamentation and in its image of the Buddha, it resembled the one at Bodh Gaya.

Providing a corrective to the image left by the 19th-century restorers of Bodh Gaya, the Vishnu temple at Bhitargaon is almost certainly the oldest brick structure in India to survive in its original, if much eroded, form. On a high base the three-bay *mulaprasada* is articulated with attached columns of a type, incorporating a *kumbha* in both base and capital, which we have first seen at Nasik – though without the symbolic animals of the ceremonial pillar prototype. Vaishnavite and Shaivite icons in terracotta panels are inset into the main bays. A double cornice of patterned bricks, separated by a frieze of *mithuna* and other *shakti* images in terracotta panels, is surmounted by a *shikhara* composed of diminishing tiers of *kapota* mouldings with lunettes and assertive string courses. In addition to predominantly Vaishnavite icons, many of the lunettes have faces peering out as in the representations of *prasadas* in early reliefs. By continuing the central projections to the top, as at Deogarh, its architect enhanced the verticals to much greater effect than his colleague of the Mahabodhi. The *garbha-griha* is preceded by a vestibule but a porch does not survive. While both *garbha-griha* and vestibule are corbel vaulted, a passage linking them through the thickness of the wall is an exceptionally rare Hindu example of true arcuate construction.

56. Bhitargaon, Vishnu Temple: east elevation.

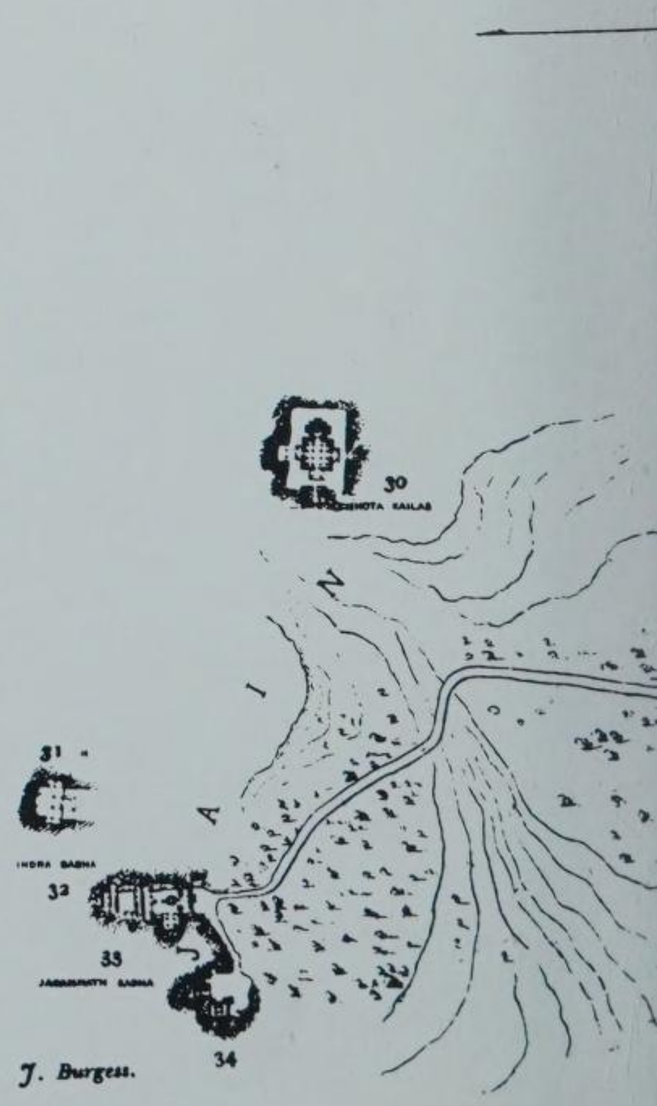
Mahayana, Hindu and Jaina Excavations

Inspired, no doubt, by the sumptuous *stupas* which dominated the great Mahayana sites, excavators at Kolvi and Binnayaga experimented with the form on a relatively modest scale in coarse rock as an alternative for image-shrines, in conjunction with the more familiar types of *chaitya-griha* and *vihara*. These *stupas* with an enshrined image of the Buddha applied to the front, give full three-dimensional form to a motif widely adopted from the 4th century in the transformation for the Mahayana of earlier sanctuaries of orthodox sects. Like the great *stupas* of the southern Andhran capital, many existing rock-cut sanctuaries were enriched in this way with images of the Buddha and attendant *bodhisattvas* – often to the detriment of their existing ornament as at Karle and Ajanta IX – to supplement or supplant the reliquary as the object of devotion. Of new work undertaken for the service of the transformed faith the most impressive was the product of a great Buddhist revival inspired by the triumph of Mahayana in western India – new excavation at old sites, notably Ajanta and Aurangabad, and comparable effort at new sites like Ellora and Bagh. The opening phase of this activity, under the Vakataka Rudrasena, coincided with Kumara Gupta's important achievements and it reached its culmination in the prosperous reign of the last important Vakataka, Harisena (c. 460–478).[11] *4; 6*

The Mahayana *chaitya-grihas* of Ajanta and Ellora conform to the traditional apsidal plan, with a colonnade separating the circumambulatory passage from the main space and its *chaitya*. Great attention was now paid to the elaboration of the entrance and instead of the former representation of obsolete wooden structural features in obsessive detail, images of the Buddha and *bodhisattvas* cover much of the facades and the general anti-architectonic tendency affects even the treatment of portal and window frame. The supports, outside and inside, are removed from the primitive prototypes by convoluted elaboration: the shafts of the columns are many-sided and bear floral or even figural ornament in varying degrees of relief below richly sculptured representations of wooden brackets. The pot member of the capital is often turned upright and takes on the time-honoured significance of the *purna-kalasha*. Alternatively it is ribbed or fluted, becoming a creased cushion-like form that begins to suggest the *amalaka* already encased beneath the abacus at Bedsa or Karle. The richly-tiered votive *stupa* is now often cushion-shaped too, and a representation of the Buddha is applied to its front.

Ajanta XIX, XXVI and the so-called 'Vishvakarma' at Ellora

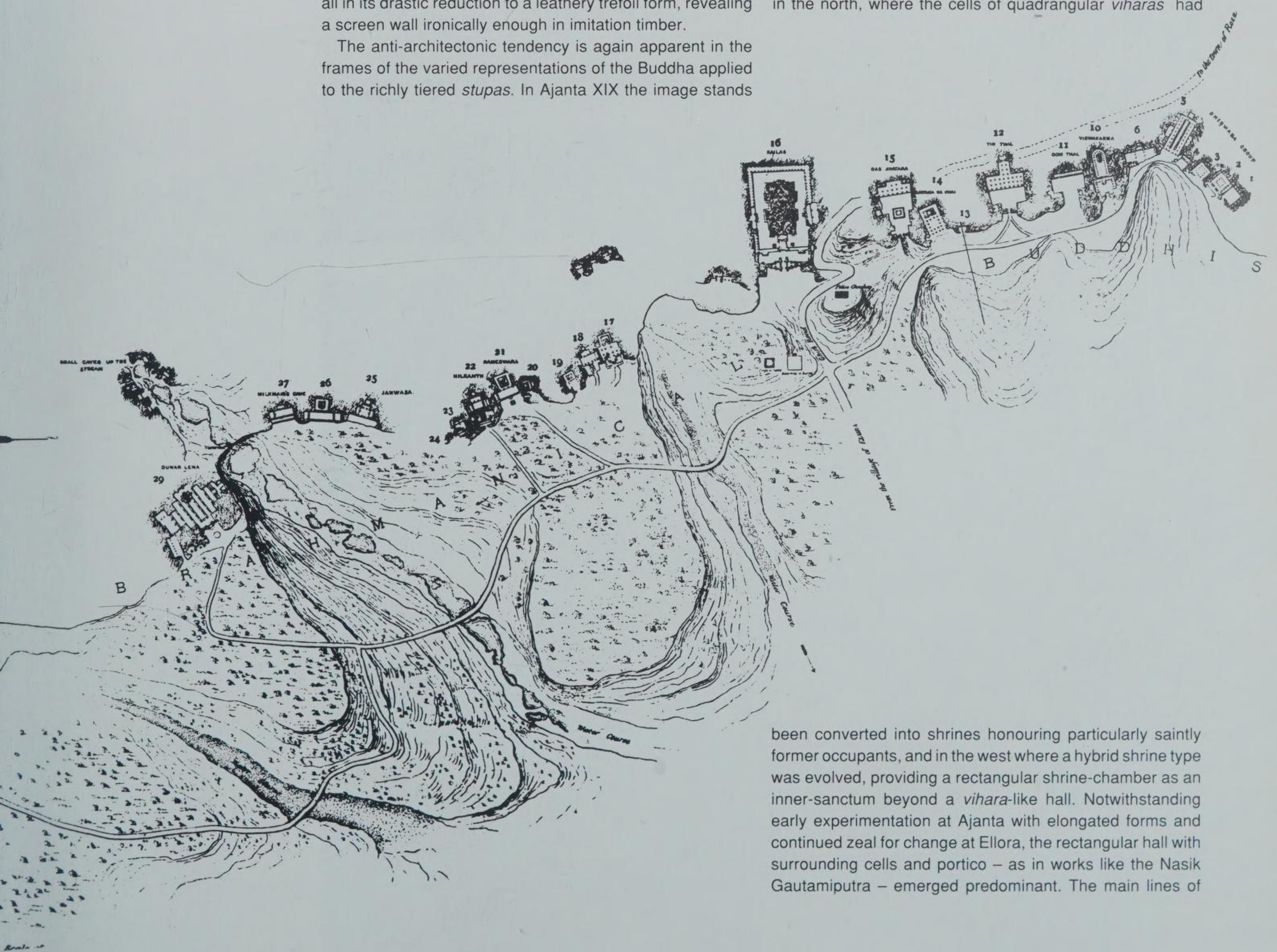
57. Ellora, site plan (1:5000).



– India's last excavated *chaitya-griha* – have fully developed entrance courts flanked by chapels and subsidiary chambers. The single entrance of the former is sheltered by an elegant portico but Ajanta XXVI and the Vishvakarma, each with triple entrances, have full verandahs across their fronts, that at Ellora returning around the contiguous sides of the court. The anti-architectonic tendency is well typified by the fate of the lunette which had dominated the traditional facade: increasingly obscured below decorative elaboration as the series progresses, in the two Ajanta examples it has grown ears and a topknot while at Ellora it is hardly recognizable at all in its drastic reduction to a leathery trefoil form, revealing a screen wall ironically enough in imitation timber.

The anti-architectonic tendency is again apparent in the frames of the varied representations of the Buddha applied to the richly tiered *stupas*. In Ajanta XIX the image stands protective below a *makara-torana* – the form long before used at Bharhut here re-embarks on a prominent career. In Ajanta XXVI the Buddha is enthroned like a *chakravartin* in the sumptuous *mandapa* of a multi-storey *prasada*. At Ellora in the Vishvakarma the Buddha is similarly enthroned within a protective arch (*mandala*) of *bodhisattvas.* 4(b) 13

The impact of Mahayana practice had its most significant effect in the transformation of the purely residential *vihara* of the orthodox sects into a place of worship as well as residence – and this, in turn, was a prime condition for the extinction of the *chaitya-griha*. As we have seen this was anticipated both in the north, where the cells of quadrangular *viharas* had

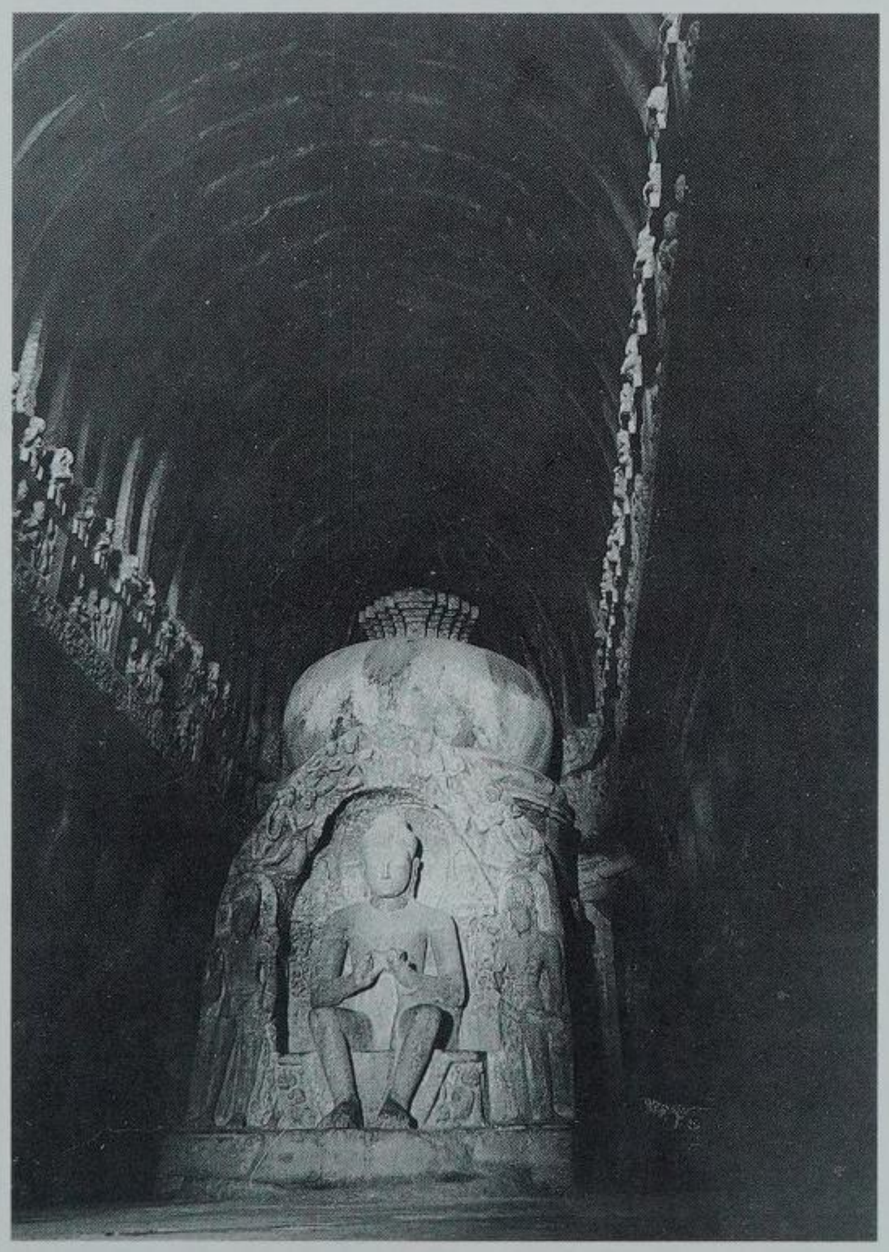


been converted into shrines honouring particularly saintly former occupants, and in the west where a hybrid shrine type was evolved, providing a rectangular shrine-chamber as an inner-sanctum beyond a *vihara*-like hall. Notwithstanding early experimentation at Ajanta with elongated forms and continued zeal for change at Ellora, the rectangular hall with surrounding cells and portico – as in works like the Nasik Gautamiputra – emerged predominant. The main lines of

58. Ajanta, *chaitya griha* XIX from south-west.

59. Ellora, Vishvakarma *chaitya griha*: **(a)** from west; **(b)** nave and *chaitya*.

59 (a)

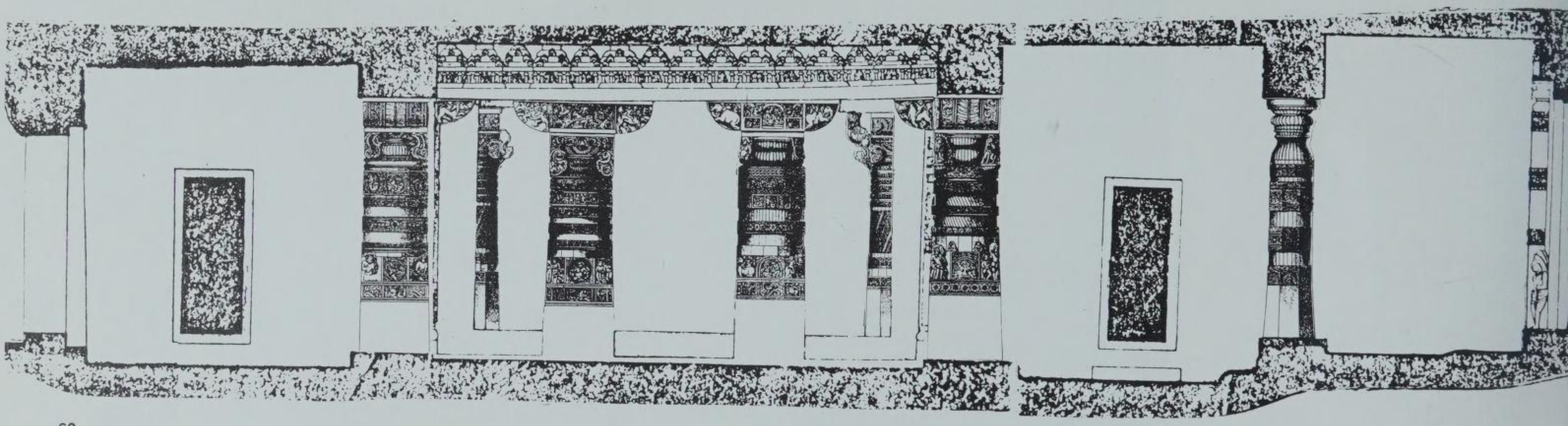


59 (b)

development were concerned with provision for circumambulation and the distinction of the shrine-chamber, often with vestibule, from a cloister-like hall planned on the 'nine-square' formula which was also adopted for the free-standing temple. These were accompanied by iconographic developments which led to the eclipse of the *stupa* by the image of the Buddha at first standing protectively, then seated cross-legged as the preacher of Sarnath or, ultimately, enthroned as *Chakravartin*, timeless albeit with the stamp of the Kushanas.[12]

Bagh *viharas* I and III mark significant early developments though the principal cult object is still a *stupa*. In the former, porches flanked by piers project from the sides of an internal colonnade, establishing cross axes and the open central cell of the inner range is larger than the rest. In III a central square is defined by four columns, a surrounding ambulatory by twenty piers, and the sequence of cells is interrupted before the *stupa* chamber by a vestibule, screened with columns and embellished with Buddha images. 28(d)

The 'nine-square' cloister and vestibule were to be characteristic features of Ajanta's new *viharas* and the earlier works at Ellora. The nucleus of Aurangabad III is a common variation on the theme. Notable exceptions to the type include Ajanta XVI, where the image is detached for circumambulation in a columned hall without vestibule, and VI where the lower of two storeys is an *apadana*. Ellora V has no verandah and the main hall is an extended rectangle with a generous vestibule and shrines to each side. A parallel pair of low stone benches along the centre, suggesting a place of 29 28(f)



60

61 (a)

61 (b)

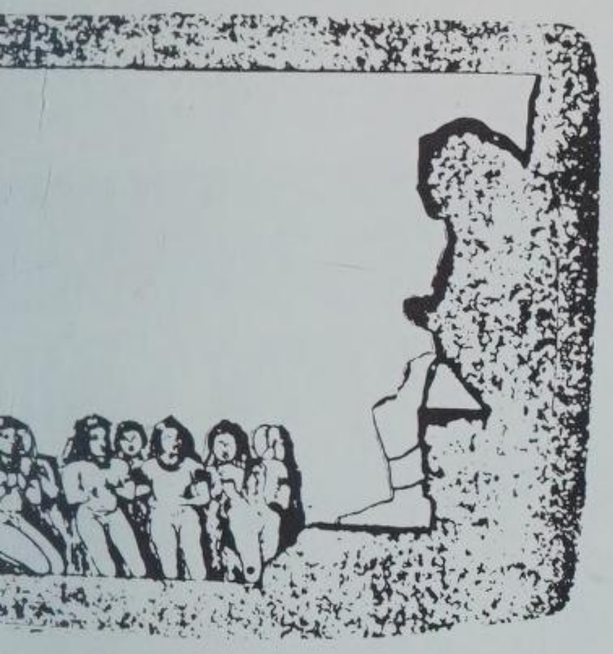
60. Aurangabad III, section.

61. Ellora XII (Tin Thal): **(a)** court from west; **(b)** upper level.

assembly, recalls Kanheri X, the so-called Darbar, but there the lateral arrangement is more effectively dominated by the projecting central image chamber. Ellora VI has three large halls side by side with piers between, and a richly carved vestibule before the image-chamber. Perhaps most spectacular of all Mahayana excavations, however, are Ellora XI and XII (the so-called Don and Tin Thal): of three storeys, both have a broad forecourt dominated by superimposed galleries with square piers and simple bracket-capitals; the storeys vary in depth and in the number of their internal supports – the greatest being the richly carved top floors of XII with five rows of eight piers.

Except for the protean piers of the late works at Ellora, supports in *viharas* at all main Mahayana sites are permutations of those encountered in the *chaitya-grihas*: Ajanta I, whose verandah was unusual in having had a porch projecting from its centre, Ellora II and Aurangabad III offer particularly sumptuous ranges of columns of the *purna-kalasha* type. Like the frames of *stupa* images, shrine portals are often architectonic: Ajanta VI has a *makara-torana* but *prasada* motifs are more common – as in the sumptuous five-jamb composition in Ajanta IV with its *mithunas, dvara-palas* and lush lotus foliage. In Ajanta VI and still in XVII the image is the Preacher of Sarnath; in Ajanta XVI and Aurangabad III the Buddha is already *Chakravartin*, and while this image is predominant thereafter, the earlier form reappears in works as late as Ellora XI and XII. In many Mahayana excavations wall bays have rich painted or sculpted revetment of Buddha and *bodhisattva* images or *Jataka* episodes – the great painting cycles of Ajanta I, II, XVI and XVII representing a peak of achievement.

The Hindus and Jainas joined the Buddhists at Ellora and opened several sites in the north-west Deccan, notably Badami, Jogeshvari and Elephanta. At Ellora the Hindus ultimately supplanted the Buddhists and continued their series northwards along the spur face with some fifteen temples of varying degrees of importance and the Jainas added five more beyond these. New sites were opened in the south-east, too, notably at Mahabalipuram. The earliest Hindu efforts repeat the latest Buddhist forms but as they



became surer in meeting their own non-monastic needs, the centralized pattern of cells about a 'court' was suppressed, the problem of circumambulation about one dominant shrine opposite the entrance was resolved, a sophisticated relationship was developed between the shrine with its ambulatory and the increasingly impressive halls, and in their culminating achievements at Ellora and Elephanta two axes were reconciled. Multi-jamb portals incorporating a *prasada* lintel generally play their now familiar part: they rise from Ganga and Yamuna often joined by *dvara-palas* before *garbha-grihas* though porticos usually have powerful independent guardians. Elaboration of both the *purna-kalasha* and *padma-kumbha* type of supports appealed to Hindus and Jainas no less than to Buddhists, but square blocks supporting simple brackets, sometimes with figural struts, are common in Hindu rock-cut architecture.[13]

All the Badami works consist of a pillared verandah screened from an inner hall by columns *in antis*, and a *garbha-griha* – without circumambulatory passage but with provision for a stone *linga* or icon – cut further into the rock opposite the entrance. The side cells of the Buddhist prototype are usually replaced by iconic panels in high relief. Piers are usually square in section but occasionally they terminate in fluted *kalasha*, *kumbha* and *padma*. The second of the two Vaishnava works, dated A.D. 578, is the largest and finest of the group. Preceded by a square entrance court, the main hall is based on a plinth with a frieze of dwarfs and is carried by six great square piers *in antis*. Instead of a wall pierced by windows and doors, as in Buddhist *viharas*, four octagonal columns, also *in antis*, screen the verandah from the interior hall. Within, square piers define an ambulatory and aisles but the simple, roughly square *garbha-griha* has no

28(e); 4(c)

62. Ajanta I from south-west.

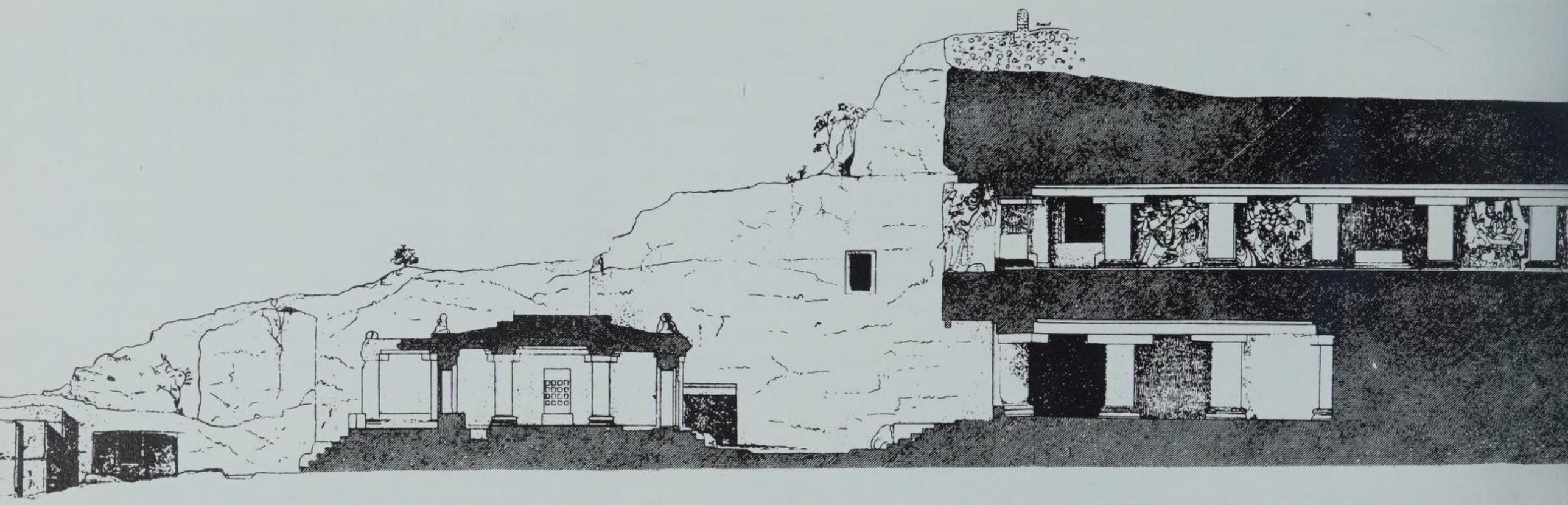
63. Ellora II, hall towards sanctum.

64. Badami II, from south-west.

62

63

64



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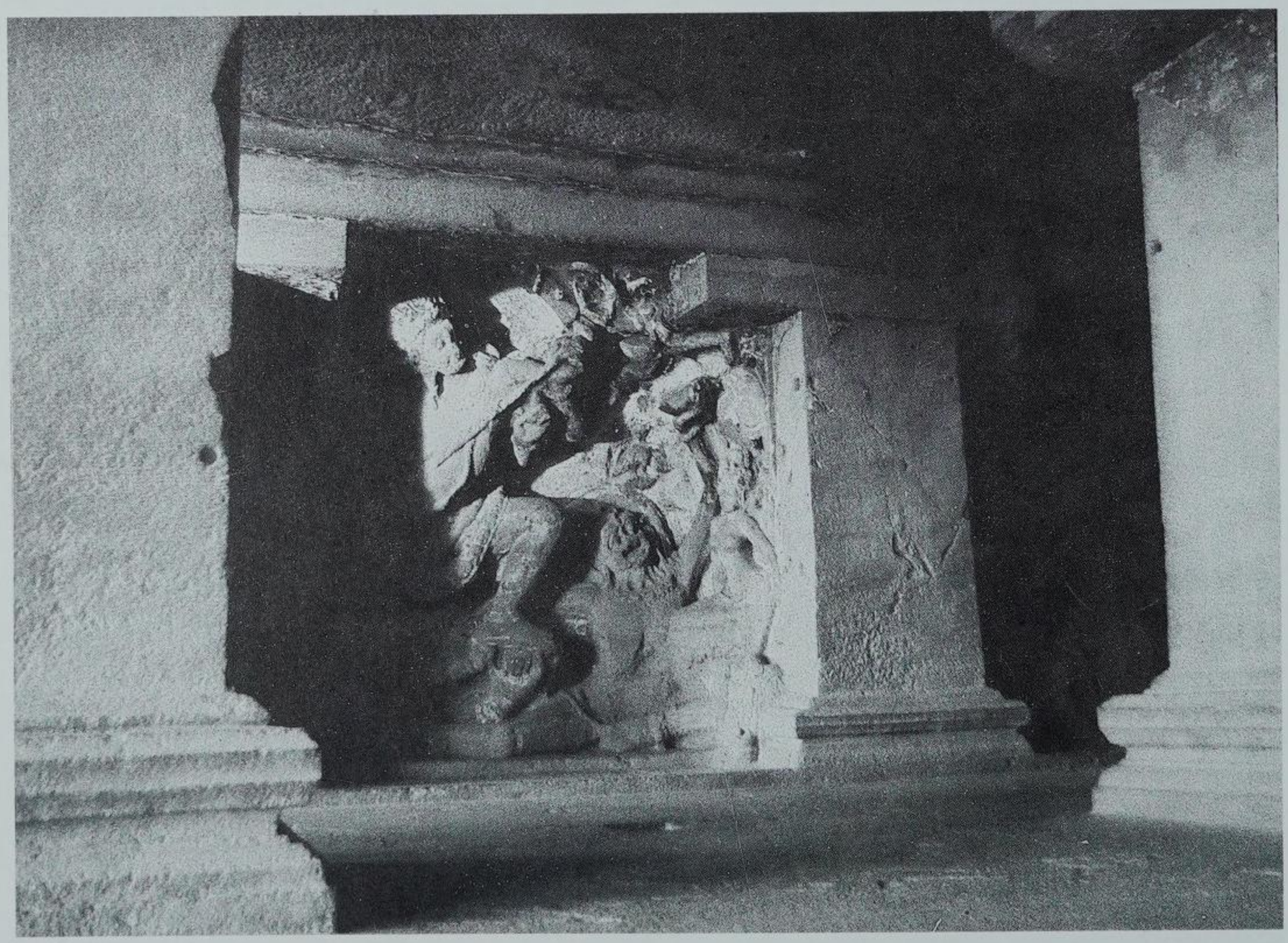
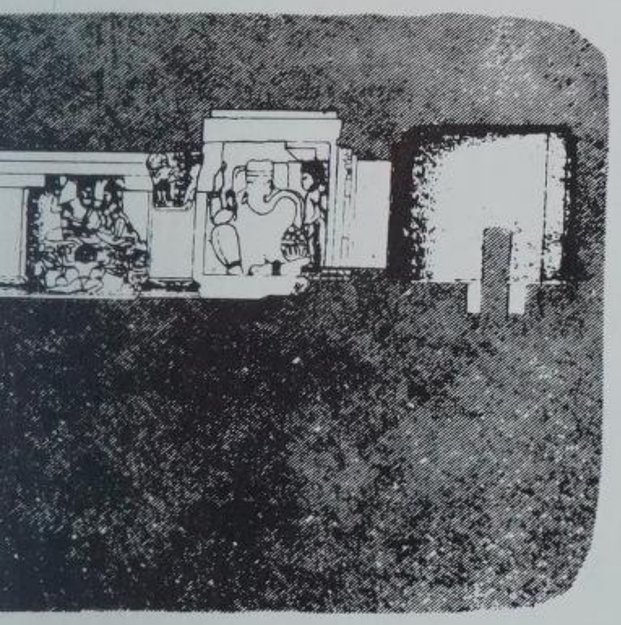


65 (b)

65. Ellora XV, (Dashavatara): **(a)** section; **(b)** upper level, north side bay.

66. Ellora XIV (Ravana-ki-Khai): south side bay.

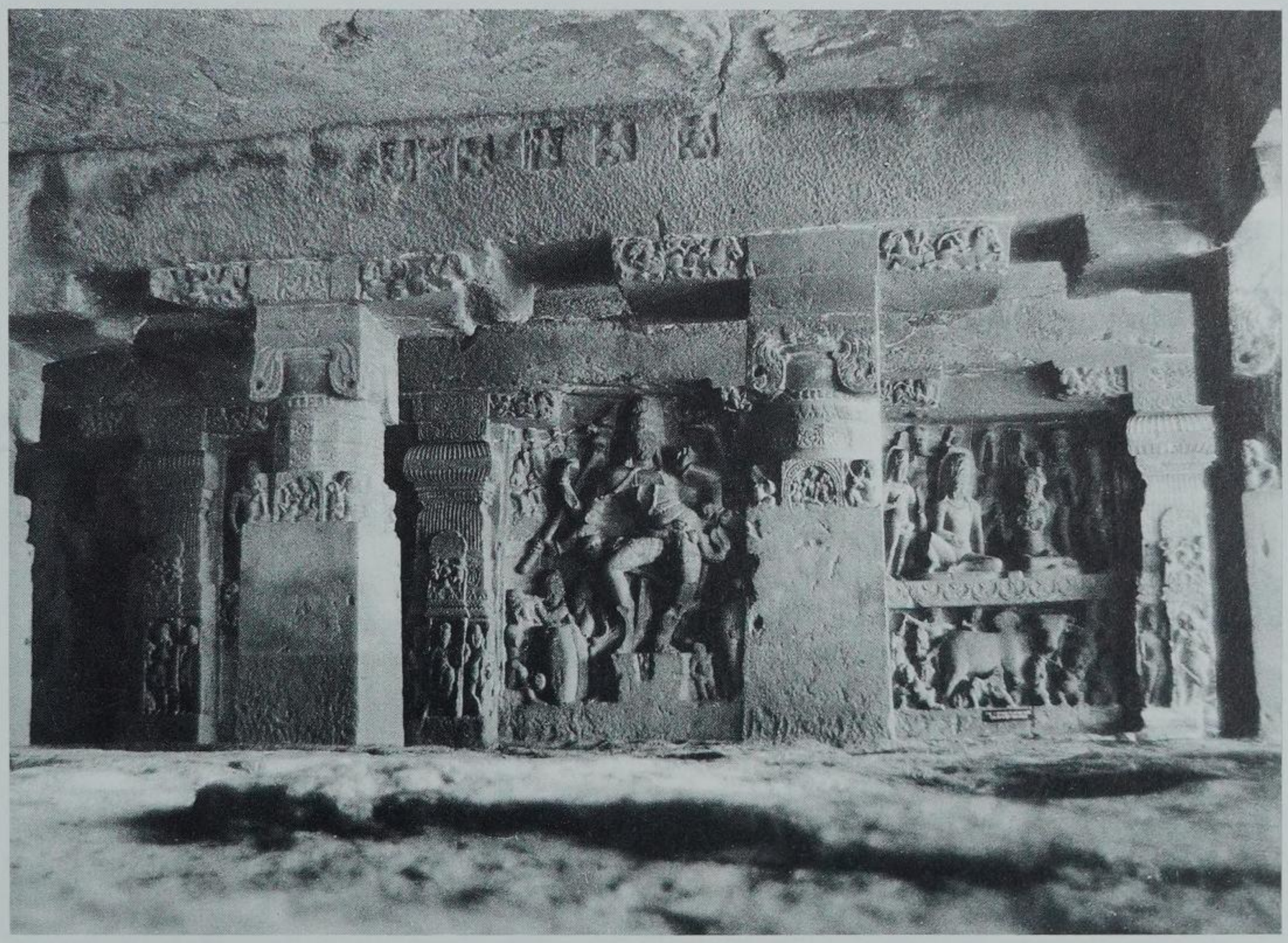


ambulatory passage. Pilasters or half-columns divide the walls into bays, those in the verandah containing sumptuous iconic reliefs. The ceilings throughout are divided by cross beams framing sculptured panels and the main eaves-cornice has imitation ribbing over the beams, corbel brackets and magnificent figural struts.

The Ellora Dashavatara, like the Tin Tal, has an open forecourt and halls on more than one level – two rather than three, the lower one subdivided by fourteen great square pillars, the upper by forty-four. Pilasters frame magnificent reliefs on the upper level and the *garbha-griha*, without circumambulatory passage, is preceded by a vestibule. As in other Shaivite examples – at Jogai Amba, Bhamburde, Karusha and Ellora itself – the entrance court contains a pavilion for Nandi.

The Ravana-ki Khai, the immediate neighbour of the Tin Tal, is simpler, more rational in plan than the Dashavatara. In an all-embracing rectangle, the detached *garbha-griha* has a circumambulatory passage and within the hall twelve columns define an ambulatory aligned with the sides of the shrine chamber. While various permutations of these approaches were adopted for both Hindu and Jaina excavations further along the rock face, something of their origin is apparent in the plan of the Rameshvara, amongst others. An open court, with a Nandi and side shrines, precedes an elongated portico. This opens at either end into subsidiary shrines and in the interior to a large sanctuary with ambulatory. There are *dvara-palas* outside and, within, a stone *linga* on a square base with a spout projecting over a cistern to drain the libation fluids. The short *purna-kalasha* pillars of the facade stand on a bench-like platform with sloping backs embellished with a *vedika* and dwarfs.

The early Hindu series at Ellora seems to have culminated towards the end of the 6th century in the Dhumarlenya which was unparalled at the time for the magnificence of its conception – if not the quality of its execution – except by the masterpieces at Elephanta and Jogeshvari. The Jogeshvari work is basically square in plan but the much more complex



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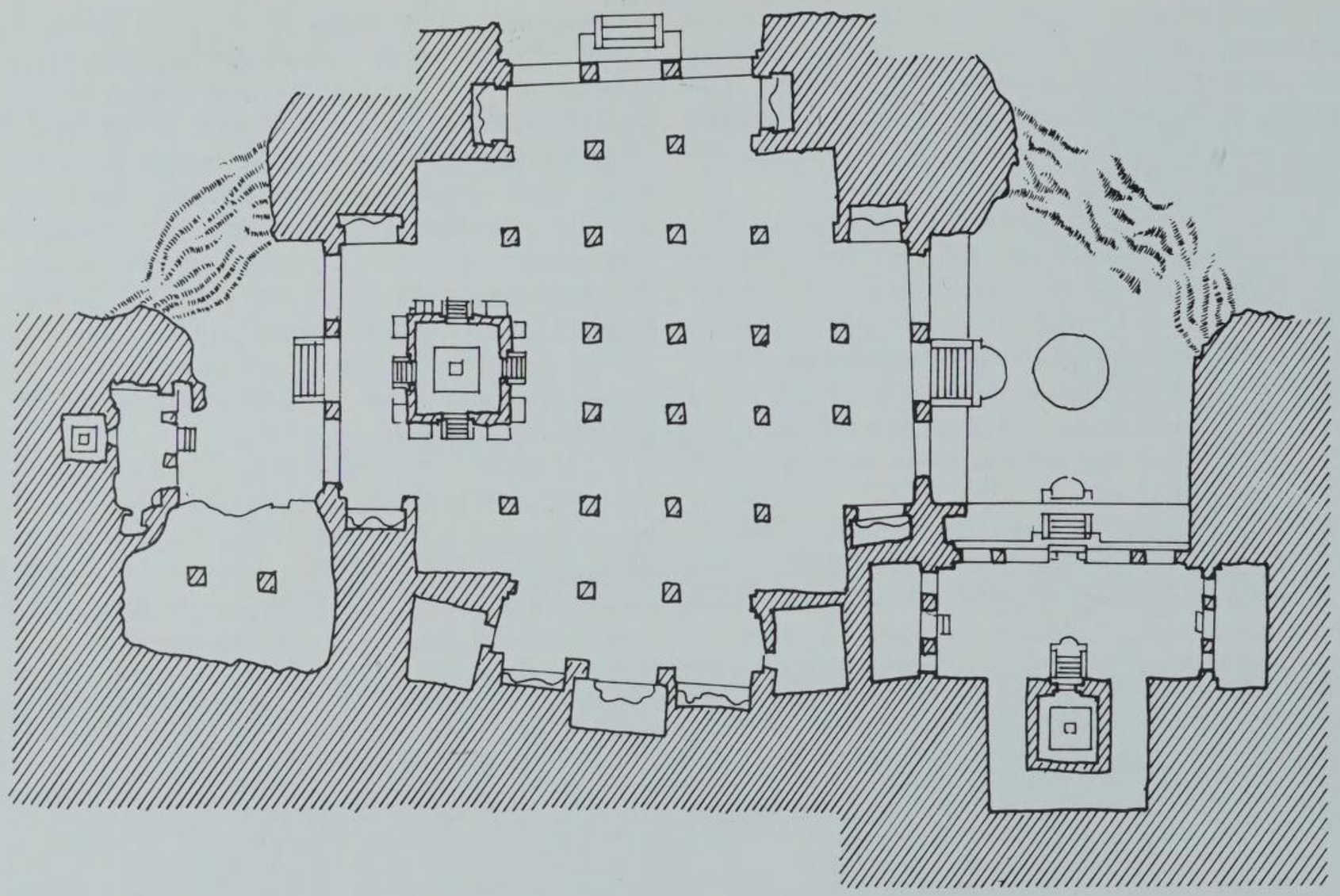


67. Elephanta, Great Shiva *lenya*: **(a)** plan (1:500); **(b)** to eastern entrance; **(c)** to *garbha-griha*.

67 (a)

67 (b)

67 (c)

68. Jogeshvari, Shiva Lakulisha *lenya*: ambulatory.

Dhumarlenya and Elephanta temples are both cruciform: the main axis runs through a generally rectangular main hall with nave and aisles, from the Nandi and the eastern entrance to the four-faced shrine chamber; the secondary north-south axis depends on the columns dividing the portico and transepts with their superb reliefs. Due to the configuration of the rock at each site, however, the main axis is terminated behind the shrine only at Ellora. At Elephanta it is dominant in plan and asserted in the treatment of the 'roof' beams but, continuing through an entrance beyond the *garbha-griha* it is open-ended and tends to be eclipsed by the secondary axis closed by the great Trimurti in the centre of the south wall.[14]

Structures of the Early Chalukyas and their Neighbours

While the Gupta temple evolved from the rectangular shrine familiar from Buddhist sites at important centres all over India, the accidents of survival suggest that contemporary Hindu builders beyond Gupta domains were initially at least as interested in the apsidal form. The temples at Chezarla and Ter may have been converted from Buddhist use but the apsidal stone structure at Chikka Mahakuta near Badami seems to have been an original Hindu foundation of the mid-5th century. Closely following the form of the Buddhist *chaitya-griha*, it certainly represents a basic approach to the provision of an enclosed ambulatory long familiar in ephemeral materials.

More clearly in line with northern trends, in particular those represented by the Parvati temple at Nachna-Kuthara, are the earliest works at Aihole. Their dating is highly controversial
53(e) but the Lad Khan and the earliest of the Kontigudi group, for instance, are experimental in form, reflecting the 'nine-square' Buddhist *vihara* types – if not recalling the age-old form of the village meeting hall. Chalukyan architects were preoccupied with more complex plans and forms than Hinduism had yet found necessary and as Hindu image-worship was still comparatively new, its ritual still evolving, it is hardly surprising that their experiments took their departure from the Buddhist *vihara* shrine, itself still evolving.[15]

The Lad Khan is entered through a portico of twelve columns and in an expansion of the 'nine-square' formula, its main hall is divided by two series of pillars into galleries and a central 'court' below the tower of the subsidiary sanctuary. The Kontigudi, perhaps more primitive, is a rectangular *mandapa* divided longitudinally by massive piers but the axis from its entrance in the verandah to the *garbha-griha*, in the centre of the opposite long side, cuts across the internal division. As in the Kontigudi, the Lad Khan's main shrine interrupts the outer gallery, to which light is admitted through screened windows, but in compensation the inner gallery forms a continuous ambulatory about the central space. Low-pitched roofs over the peripheral spaces are similar in both works but the Lad Khan's central columns support a tower containing a second sanctuary.

The pillars in these early works, reproducing the main elements of a timber structural system despite their massiveness and occasional ornament, are usually monolithic, square in section, without bases but with simple bracket capitals. Some of the Lad Khan's inner pillars have an octagonal neck and wave mouldings to the bracket edge. Similar piers articulate the exterior walls except at the corners where pilasters of the *padma-kumbha* type make a prominent appearance. Occasionally figural relief in medallions, bead festoons (*mukta-sara*), and vertical or horizontal bands with or without stylized floral ornament are carved in light relief on the surfaces of the interior pillars. The exterior surfaces of the Lad Khan's sanctum support deities, including Ganga and Yamuna, on their appropriate vehicles. The base has *khura* and *kapota* but no *kumuda*.

Unwilling to move the *garbha-griha* to the centre of the main hall where it would have left space only for *pradakshina* but realizing the illogicality of placing it to one side, where it interrupted the ambulatory, the Chalukyas saw two possible approaches to the solution of the problem posed by the Lad Khan arrangement. Apparently concurrent, both began with the elimination of the outer gallery leaving a square or rectangular hall divided longitudinally into a high nave and lower side aisles, preceded by a porch. Beyond this, one alternative projected a three-bay *mulaprasada* for the *garbha-griha* from the back of a 'nine-square' hall without ambulatory. 53(h)
The other approach extended the aisles to form a continuous ambulatory around the *garbha-griha*. Additional space was gained in the first type by interposing a vestibule between hall and *garbha-griha* while in the second type a vestibule was formed by partitioning off a raised area between the *garbha-griha* and the inner pair of hall piers. Naturally the alternatives admitted of variation and ultimate synthesis. 53(g)

Naves are flat-roofed and clerestory lit, aisles have sloping roofs like the Lad Khan and pilasters are also of the Lad Khan type, but bases now often include a faceted *kumbha* moulding with recession between the *khura* and *kapota*. Essentially architectonic, like those of the early Guptas, portals sometimes represent single-storey *mandapas*, sometimes multi-storey *prasadas* either with continuous galleries or with terraces bordered by miniature square and rectangular cells. Though generally representational, a tendency towards abstraction is apparent in the interlocking of miniature niches to produce a mesh-like pattern and in the exaggeration of the *amalaka* finials over the vestigial cells at the sides. Again the *prasada,* with continuous galleries and, perhaps, *amalaka*-capped corner turrets, is reflected in the somewhat abstract *shikhara* compositions which now regularly crown *mulaprasadas*. Also common is the apparently primitive so-called Kadamba superimposition of eaves mouldings (*kapota*) and recessed bands of miniature piers

69. Aihole, Lad Khan: **(a)** from south-east; **(b)** hall towards sanctum.

69 (a)

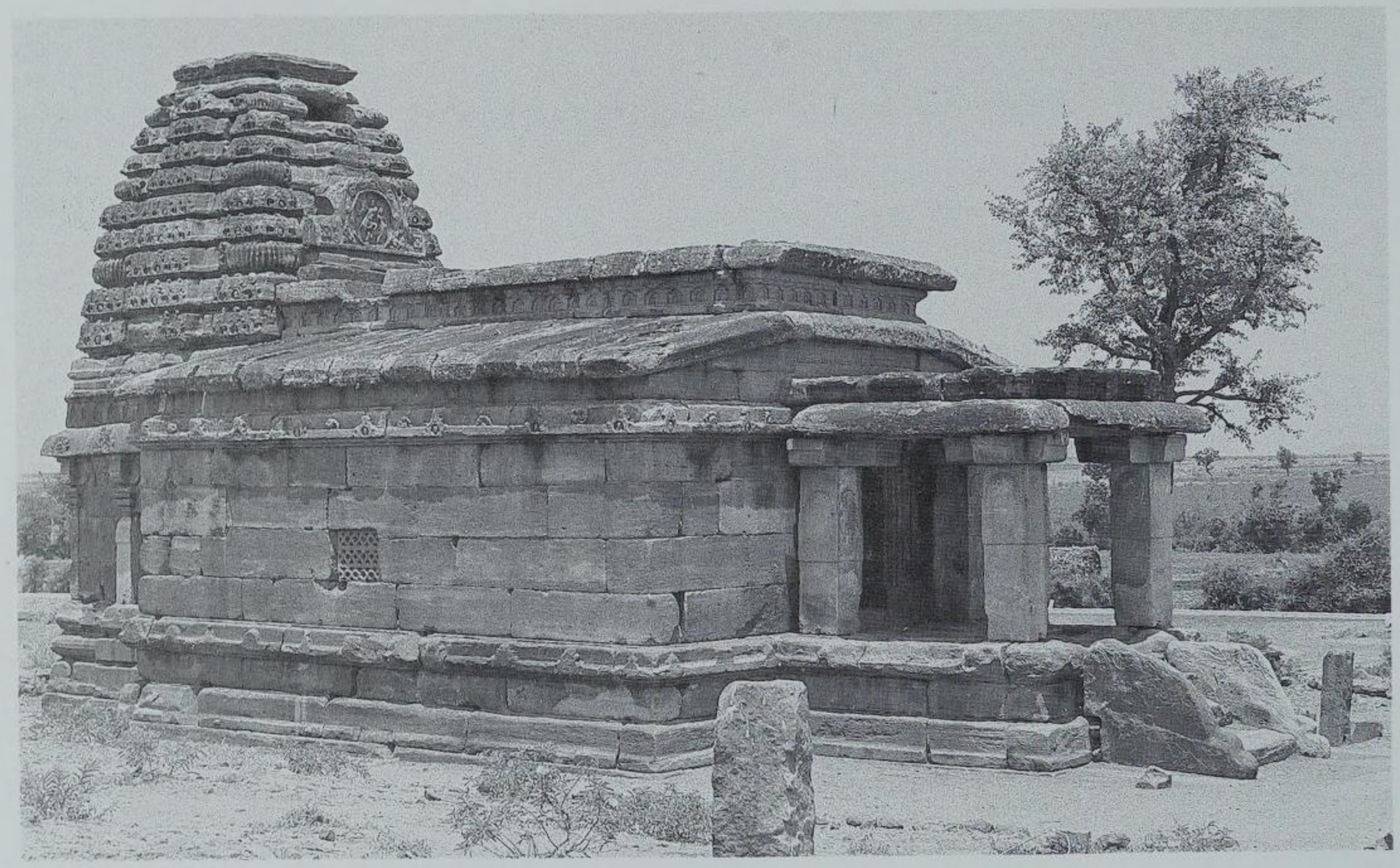
69 (b)

and brackets, precisely repeating the flat slab roofs and clerestories of hall naves.

With square hall and projecting porch and *mulaprasada* the Tarappagudi and Narayana Temples at Aihole represent 53(h) the first of the two alternative Chalukyan plans. With cella and hall enveloped in a rectangular chamber from which only the porch projects, the Huchchimallagudi well represents 53(g) the second alternative. An elegant variation on the latter was produced for the Durga Temple which followed the venerable 53(i) precedent of the Chikka-Mahakuta Temple and, beyond that, the Buddhist *chaitya-griha*. An apsidal cella embraces both main hall and *garbha-griha* with ambulatory and is itself enclosed by a colonnaded gallery forming a second zone of ambulation. In the sumptuous entrance hall the area defined by the four inner pillars is raised to form a vestibule before the cella, while the outer zone is a continuous pillared gallery.[16]

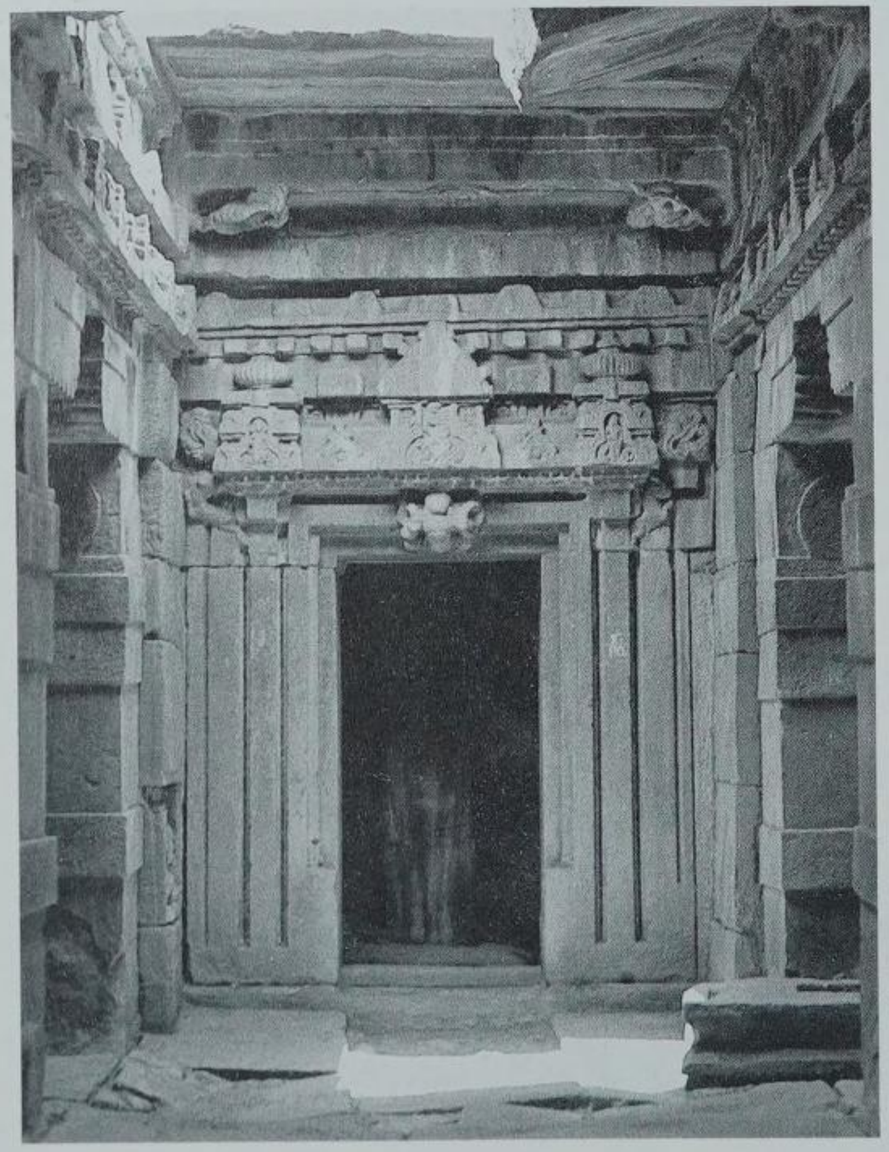
Massive unadorned piers, square in section and with simple bracket capitals, carry the porch roofs of the Tarappagudi, Narayana and Huchchimallagudi but pilasters of the *padma-kumbha* type stress the corners only of the former's *mulaprasada* and similar attached piers frame its *ghana-dvaras*. Many of the outer piers of the Durga are unadorned too but those of the portico have lavish embellishment in both high and low relief. The *khura, kumuda* and *kapota* of

70. Aihole temple types: **(a-b)** Tarappagudi, from south-east and sanctum portal; **(c)** Huchchimallagudi from east; **(d)** 'Kadamba'-type temple in Galagnatha group from south-west.



70 (a)

70 (c)



70 (b)

70 (d)

71. Aihole, Durga Temple: **(a)** from south-west; **(b)** porch; **(c)** portal; **(d)** ambulatory.

71 (a)

71 (b)

71 (c)

71 (d)

72. Aihole, Meguti Temple from north-west.

the tiered base continue right round the perimeter and in sharp contrast to most other Aihole temples, the walls sheltered by the outer ambulatory are enriched with alternating aedicules and elaborate screened windows framed by *padma-kumbha* piers and pilasters respectively.

53(f) The Meguti, inscribed in the year 634/5 with a eulogy of Pulakeshin II, is the only dated temple at Aihole and, indeed, the oldest securely dated structural temple in India. On its acropolis, it conforms to neither basic approach but seems to be a synthesis of elements developed in both: conforming to the 'nine-square' formula in varying degrees, the entrance hall and *mulaprasada* are distinct blocks and the vestibule is provided by subdividing a third square between the two. Circumambulation about the *garbha-griha*, still surmounted by a tower rather than a *shikhara*, was apparently once possible through the surrounding chambers that met the special requirements of the Jainas for whom the temple was built. The base, with faceted *kumuda* throughout, supports an integrated exterior ordinance of *padma-kumbha* pilasters framing projections more or less equally spaced and uniform in depth. Unique at Aihole, this recalls such venerable free-standing survivals as the temple at Ter. It also foreshadows the Pallava norm – possibly coincidentally, possibly because Pulakeshin, victorious in the south, admired the prototype perpetuated by the earliest surviving Pallava works in stone.

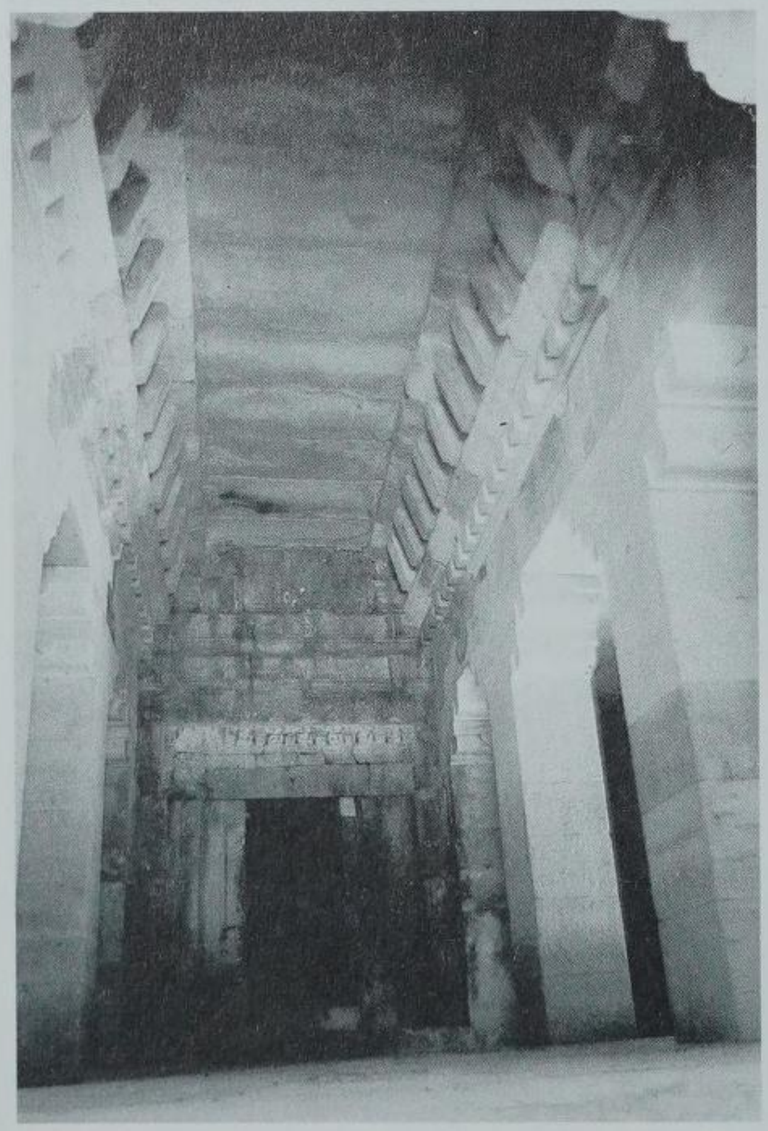
Throughout the North, works comparable to the various stages in the evolution of the forms represented at Deogarh, Bhitargaon and Aihole must once have proliferated but following the Muslim invasions few survive between the isolated example at Chandravati in the west and Sirpur in the east. At the former site the Sitaleshvara is comparable to mature Gupta works but at Sirpur the magnificent brick Lakshmana marks a notable advance in the crisp delineation of complex and subtly graded forms. The three distinct elements of the hall, vestibule and *mulaprasada* are united by the richest set of variations on the *khura-kumbha-kapota* theme so far encountered. The varied planes of the hall walls reflect the double projection of the *mulaprasada*'s five-bay ordinance and the *padma-kumbha* articulation is consistent about assertive aedicules. Dormers, miniature shrines and *amalaka* finials still clearly delineate the four storeys of the elegantly curved *shikhara* which engages the hall roof through a prominent *kirttimukha* pediment.

The Sirpur *shikhara* is still a recognizable multi-storey *prasada* but the builders of a rare group of works further east, at Bhubaneshwar in ancient Kalinga, are clearly indebted to the Guptas for the decorative detail, base and door-frame composition and probably for the major constituent elements as well. Be that as it may, they represent a relatively advanced stage in the process of assimilating the *shikhara* elements

73. Sirpur, Lakshmana Temple from south-west.

74. Bhubaneshwar, Parashurameshvara Temple: **(a)** from south-west; **(b)** hall towards sanctum; **(c)** eastern *ghana-dvara* with Karttikeya.

74 (a)



74 (b)

74 (c)

into a more homogeneous – more abstract – composition in which the original *prasada* prototype is less literally represented. Of these the most important is the Parashurameshvara.[17]

More primitive in plan than the Sirpur temple, the 113(h) Parashurameshvara has a three-bay *mulaprasada* juxtaposed without vestibule to a hall with clerestory-lit nave and aisles like many works at Aihole – the seat of Pulakeshin II who was carrying Chalukyan arms to Kalinga at this time. As in late Gupta and Early Chalukyan works, the base of the *mulaprasada* consists of *khura, kumbha* and *kapota*. The 7(b) walls of the hall have suites of icons inset between pilasters with *purna-kalasha* capital and base, supporting low relief filigree dormer motifs. Informally placed doors and variously screened windows interrupt the ordinance. As in late Gupta works, Ganga and Yamuna are at the portal base and floral motifs in the portal jambs are related to those of Deogarh. The aedicules of the *mulaprasada* are minor and major representations of the *prasada* motif, the former crowned by elaborate pediments pushing well up into the five-storey *shikhara* whose five vertical divisions and shallow semi-abstract detail are at odds with the wall below.

Regional Variants

Around the periphery of the Gupta empire, in Bengal and Kashmir, Kathiawar, the Kadamba territory of the central-west coast and beyond in Kanara and Kerala, the need to shed prodigious quantities of rain prompted forms related by a common pragmatism but reflecting the local vernacular. At variance with the main stream of northern development which stemmed from the Gupta achievement – and, indeed, of the parallel southern movement – most of these peripheral schools were to retain their identity until modern times.

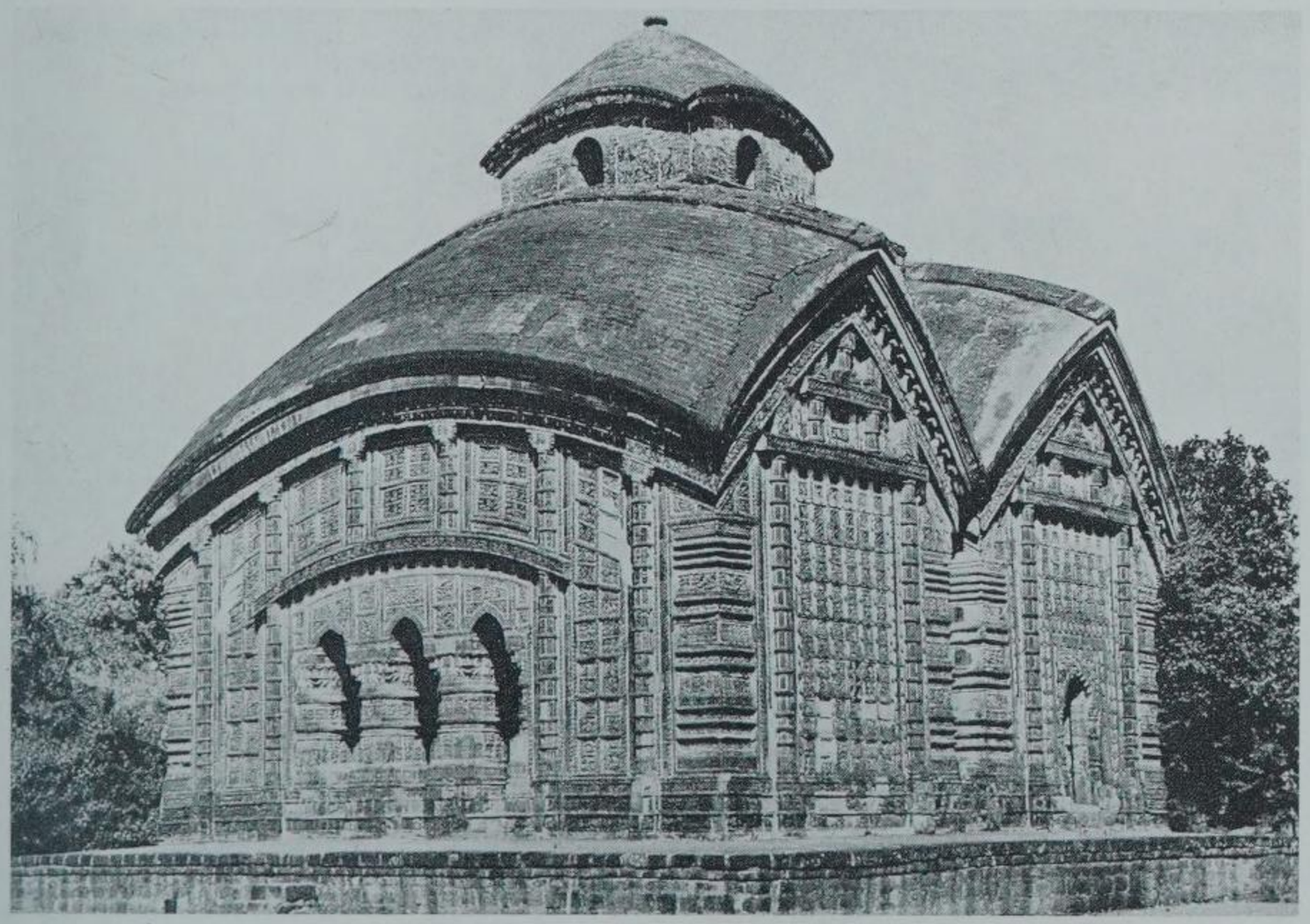
Few ancient Bengali temples survive: built usually of brick, mud, bamboo and other perishable materials on an alluvial plain constantly subject to inundation and the changing course of rivers, those that did not fall victim to nature were removed by the Muslims. Sculpture and manuscript painting, inscriptions and literature record buildings with superimposed pitched roofs, crowned with a *stupa*, an *amalaka* or even a *shikhara*. Perhaps mainly Buddhist, these were the precedents for such structures as the Maynapur Hakanda and Atbaichandi temples, with their superimposed courses of receding masonry.

The vernacular precedent consisted of a rectangular room rising above a verandah with a lean-to roof. The most basic Bengali vernacular form, however, was the bamboo and mud hut with thatched roof curved to throw the water off more effectively. Despite the importation of more sophisticated types, this form (*bangaldar*) and its derivatives, the pitched and hipped roof (*do-* and *chou-chala*), was to remain dominant throughout the architectural history of the province – partly because of the non-monumental nature of Bengali materials and partly because of the non-hieratic attitude of the Bengali himself. In the many relatively late extant works, clay-fired to a rich red brick is the usual material but pillars, windows and door frames may be of wood or stone and a revetment of terracotta panels provides a protective skin. A podium is invariable, increasing in height with the dampness of the region.

In the *do-chala* type the rectangular sanctuary is preceded by a portico usually let into one of the long sides and the form is doubled with a small tower inserted in the valley formed by the inner slopes of roofs. In the *chou-chala* a square sanctuary may be entirely surrounded by a verandah and the simple repetition of the basic unit horizontally and/or vertically is a common practice. Equally common is the cross-fertilization of this type with forms derived from the northern tradition. As primitive ones no longer exist representative examples may be found amongst the 17th- and 18th-century works at Murshidabad, Vishnupur or Bansberia, for instance – for all 7(c) their indebtedness to the imported arcuate system.[18]

The Hindu architectural tradition of Kashmir, too, suffered at the hands of the Muslims. Its surviving fragments form a homogeneous group not notable for varied development from its inception in the 6th or 7th century. With two-tiered pyramidal roof penetrated by pedimented porticos, they reflect the transitory structures of the domestic vernacular, well-attuned to the shedding of rain and snow. Beyond that, the compound surrounded by a colonnade with cells or shrines

75. Vishnupur, Keshta Raya Temple.



76 (a)

76 (b)

76. Bansberia: **(a)** Ananta Vasudeva Temple, with Hamseshvari Temple (1814) background; **(b)** wayside shrine.

77. Martand, Sun Temple from south-east.

reflects Buddhist practice and the orders commonly used, often strangely reminiscent of the permutations of late Roman forms produced by Byzantine architects, reflect the influences of neighbouring Gandhara in particular. The provenance of the characteristic trefoil arch, invariably associated with the order, is by no means so clear. Of the monuments surviving from before the Muslim conquest, the great Surya temple at 9(a) Martand and the Shiva and Vishnu temples at Avantipur may be taken as representative of the larger complexes. The smaller, but better preserved, Shiva temple at Pandrethan offers a clue to the appearance of its greater predecessors.[19]

At the other extremity of India, in Kerala, pitched roofs with wide eaves and gabled dormers, elaborate brackets and scale-like tiles are usually superimposed over relatively prominent 'clerestories'. Invariably in rectangular compounds surrounded by colonnaded cloisters (*nalambalam*), shrines (*shrikovil*) are usually square, apsidal or even circular – for example, respectively, the Shiva temple at Ponmeri, the Subrahmanya Temple at Payyanar and the Mahadeva Temple at Trivandrum; the Vatakkunnathan Temple at Trichur has both square and circular shrines. A characteristic feature of the complex is a large rectangular hall for the ritual performance of drama (*kuttambalam*) – one of the best surviving examples is in the Vatakkunnathan with its enormous pitched roof over elaborate wooden brackets.

As in other lush areas stone did not generally displace timber and, therefore, the temples are not often very old. Stone bases and walls, plastered and frescoed or betraying the influence of the great south-eastern schools in an architectonic articulation, were given to important shrines in the main centres like Ponmeri, Payyanur, Trichur and Trivandrum – probably in rebuilding from the 9th or 10th centuries to modern times. A subregional variant is represented at Bhatkal by a small group of rectangular pavilion shrines with single pitched roofs whose stone supports carefully imitate timber.[20]

The oldest surviving stone examples amongst these related variant forms were produced by the Maitrakas (470–748) in Kathiawar. Their austere works have pitched roofs in tiers over cella and ambulatory, separated by low 'clerestories' and distinguished by blind dormers, as illustrated by the Kadvar Varaha aedicule. The temple at Gop with the

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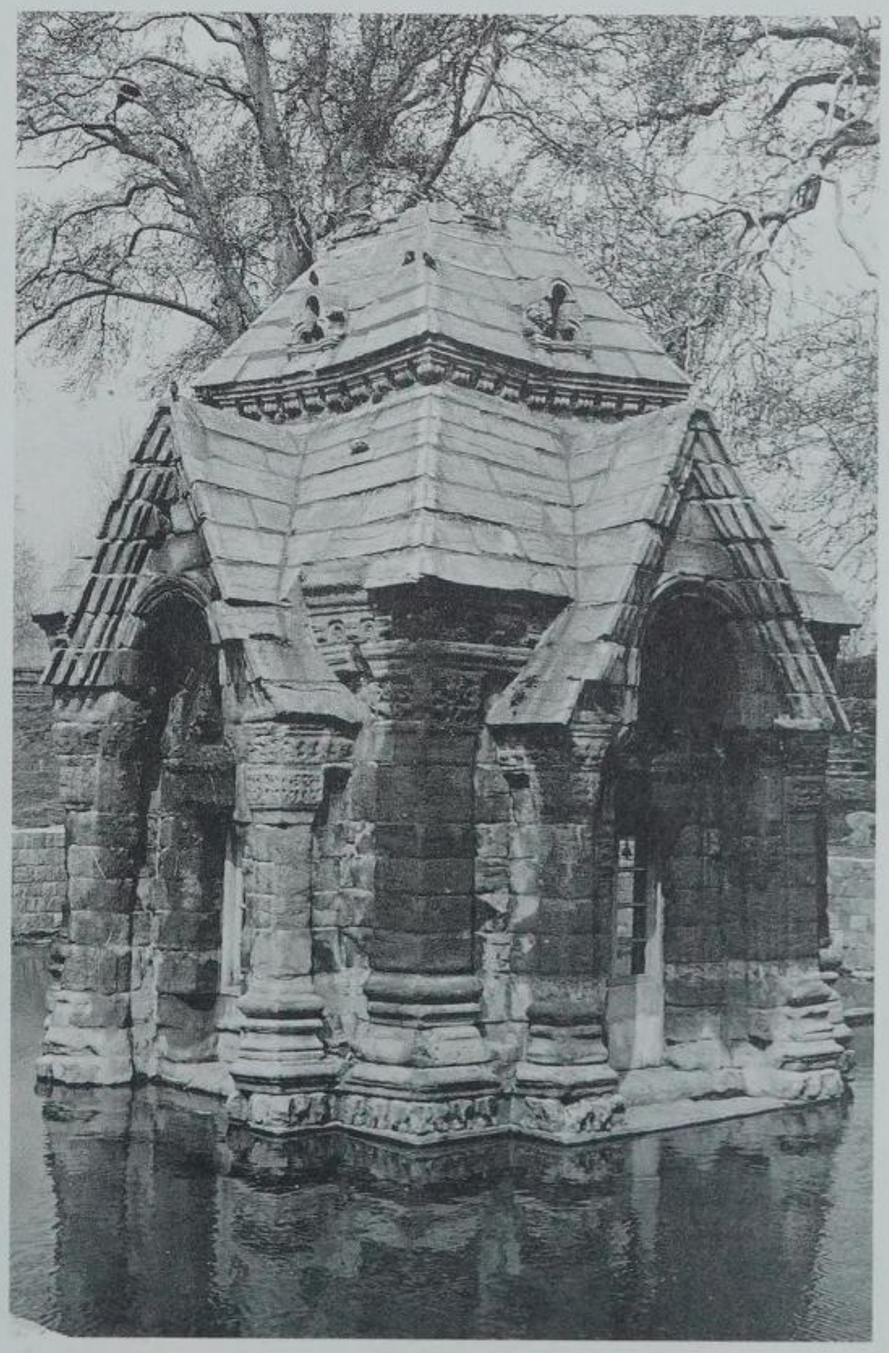


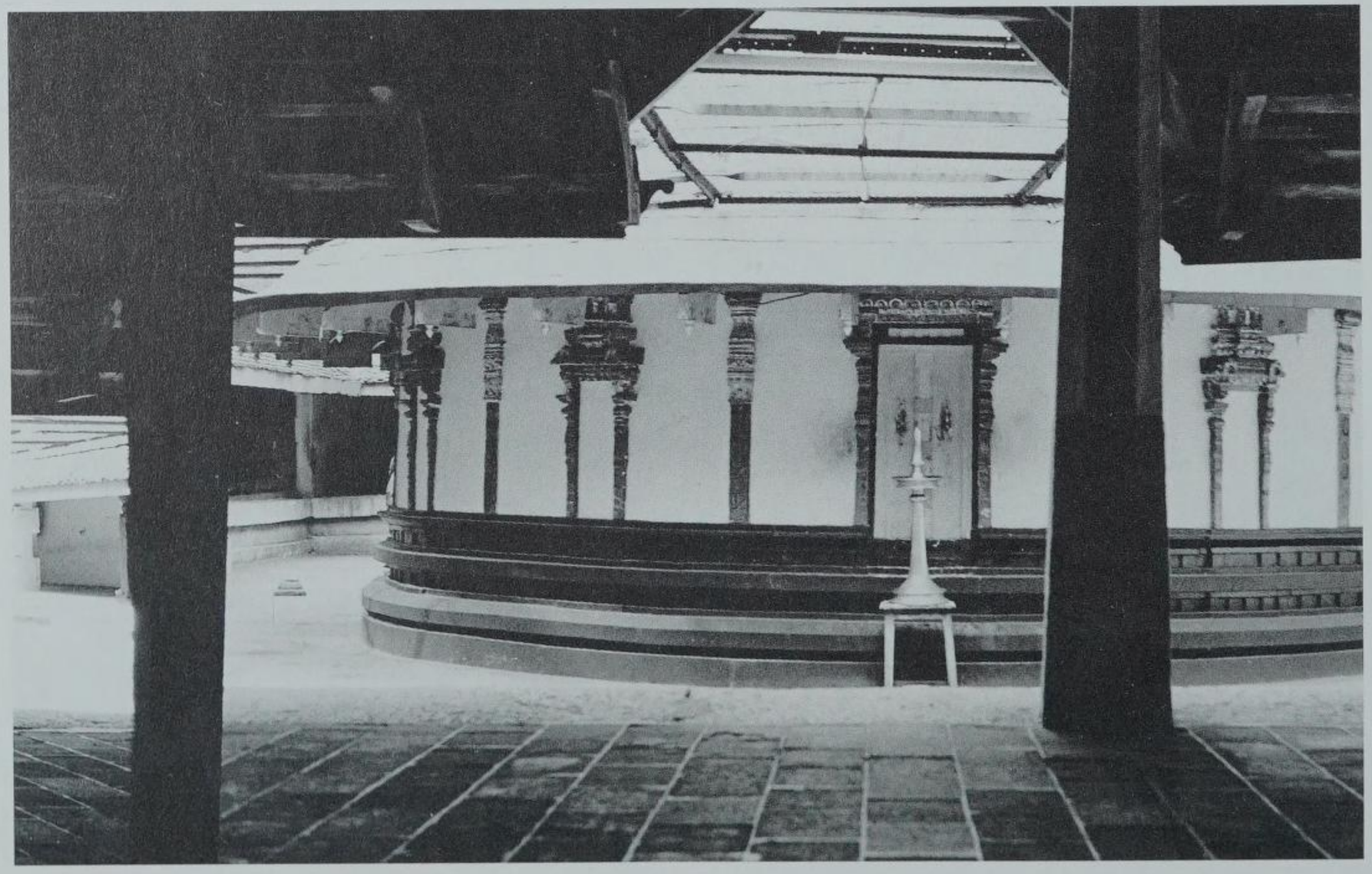
79

78. Avantipur, Avantiswami (Vishnu) Temple: enclosure detail.

79. Pandrethan, Shiva temple: from south-west.

80. Trivandrum, Mahadeva Temple: **(a)** outer court and entrance; **(b)** *vimana*.

80 (a)



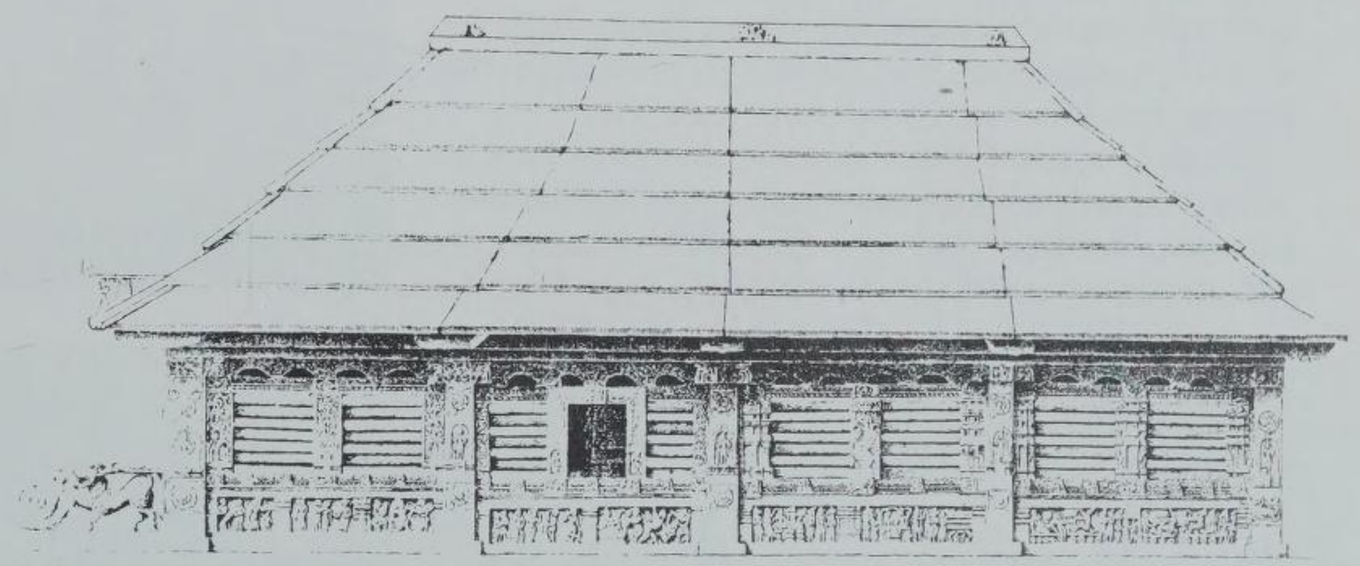
80 (b)

81. Bhatkal, Narayana Temple: section and elevation.

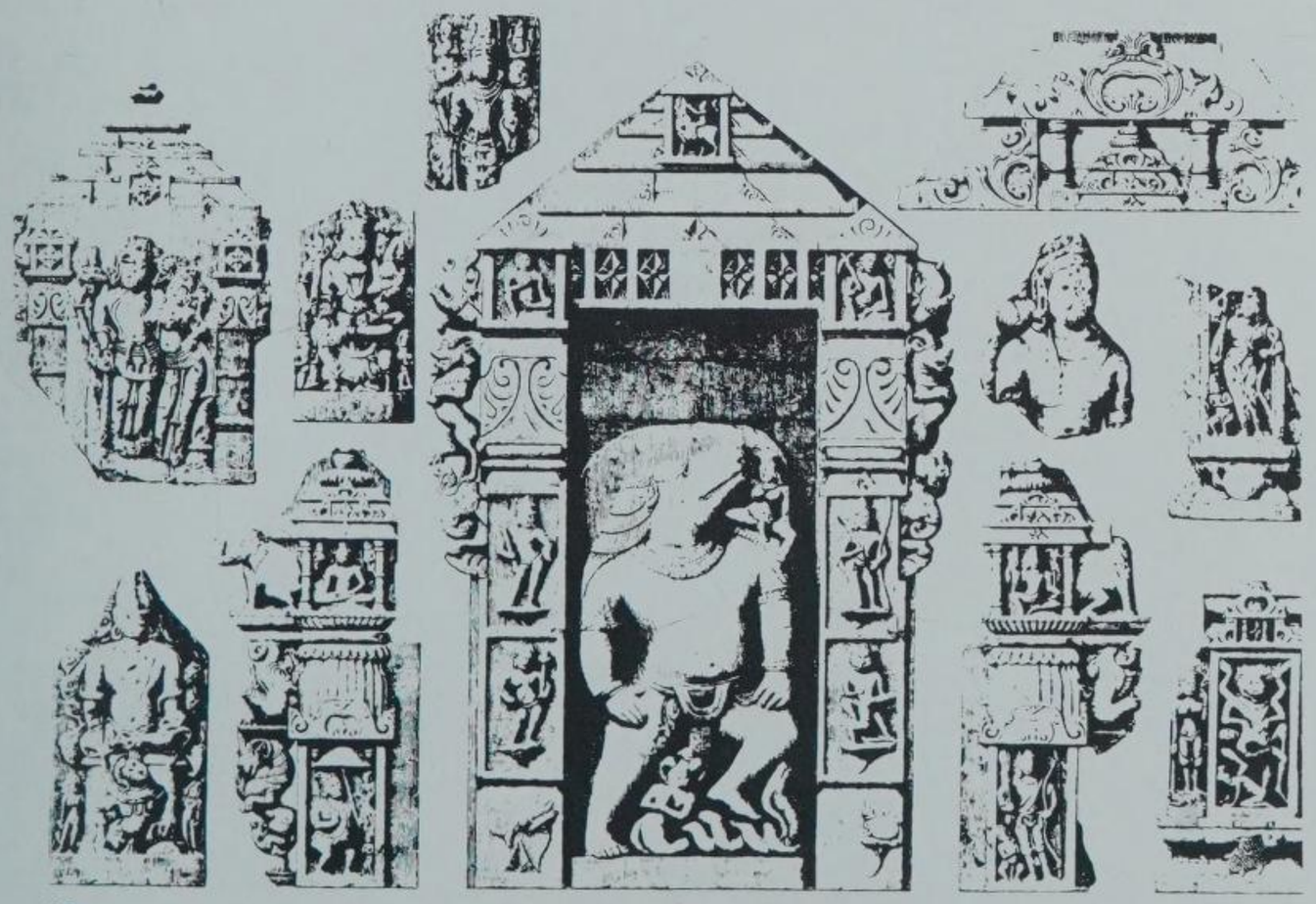
pyramidal roof of its *garbha-griha* rising through that of an ambulatory and the six-tiered Vishnu temple at Bileshvara well represent early and late stages in the evolution of a tradition which is rare amongst those of its kind in having proved short-lived. The Kadambas of Banavesi adopted a similar stepped pyramidal approach but instead of pitched roofs each galleried tier is covered by curved *kapota*-like eaves: this type, too, was eclipsed by the main stream of northern development and its most prominent representatives are to be found amongst the Chalukyan temples at Aihole.[21]

53(d)

81 (a)

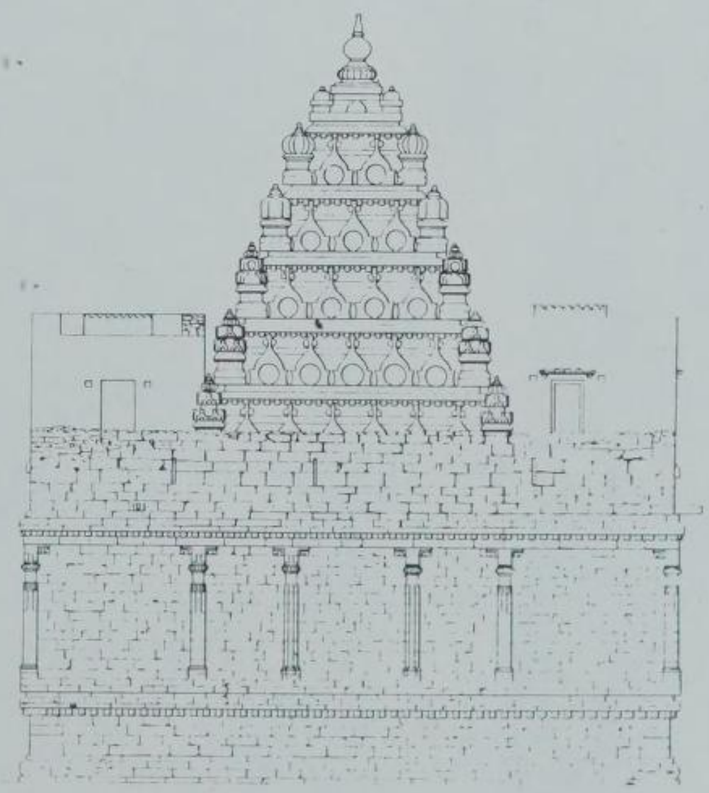


81 (b)



82

82. Kadvar, Varaha Temple: details of sculpture representing shrines.



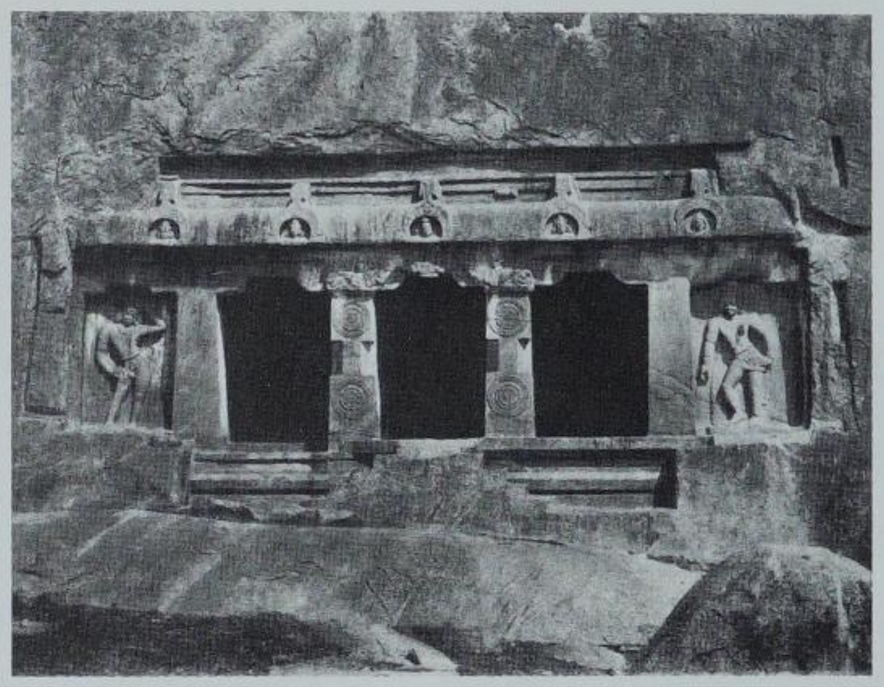
83

83. Bhileshvara, Vishnu temple: elevation of *mulaprasada*.

Excavations of the Pallavas and their Contemporaries

While the Hindu excavators in the north-west Deccan followed the tradition established there by the Buddhists working in soft sandstone, hard rock was the lot of their southern contemporaries in the domains of the Pallavas, the Pandyas and their neighbours. Their works are smaller and weightier than the many northern ones, at first much less sculpted. Though some Chalukyan influence may be detected in the work of the Pandyas and their neighbours, especially in the facilities provided for draining the sacred libation fluids and in the iconography of their precocious relief work, they generally follow forms developed by the Pallavas.

The basic alternative plan-forms followed throughout the whole course of Pallava excavation were evolved under Mahendra-varman I (c. 580–630) – presumably in accordance with the age-old timber structural tradition whose forms are



84

84. Dalavanur, Shatrumalla *mandapa*.

85. Tiruchirappalli, Lalitanikura *mandapa*: hall towards west with Shiva Gangadhara panel.

85

86. Mahabalipuram, Varaha-mandapa: exterior from south-west.

87. Mahabalipuram, Mahishamardini-mandapa.

reproduced in increasing detail. A hall fronted by pillars *in antis* and occasionally subdivided by corresponding interior pillars, serves one or more shrine chambers. To face east or west these are cut into the back or sides according to the configuration of the rock on the site. With pillars of square and octagonal blocks and elementary bracket capitals, most of Mahendra-varman's works are plain and unadorned, except where shrine-chambers have simple architectonic base mouldings, pilasters and *dvara-palas*.

The most significant developments under Mahendra-varman I are represented in the Shatrumalla at Dalavanur and the Lalitanikura at Tiruchirappalli. A faithful reproduction of a *chadya* with miniature lunettes and roof terrace rails appears at Dalavanur. Lotus medallions or inset panels adorn pillars and a complete *makara-torana* distinguishes the central bay at Dalavanur. There the shrine is at right angles to the entrance, beyond the west wall, and the two interior columns form a porch before it. Wave mouldings relieve the sides of bracket capitals at Tiruchirapalli and there the shrine portal, in the east wall of the hall at right angles to the entrance, is framed by a *prasada* motif. A magnificent bas-relief adorns the west wall opposite.[22] 28(g)

Mahendra-varman's successor, Narasimha-varman I Mamalla (c.630–668), initiated a new departure in the so-called 'Rathas' carved wholly out of free-standing boulders at his new port of Mamallapuram (Mahabalipuram) which he developed in the 630s, but the excavated tradition culminated in a series of works there too. Most of these follow the alternative planning precedents set by Mahendra-varman's architects but columns become increasingly elaborate, there is now splendid iconic relief to the hall and even within the *garbha-griha*, beyond increasingly prominent portals, and

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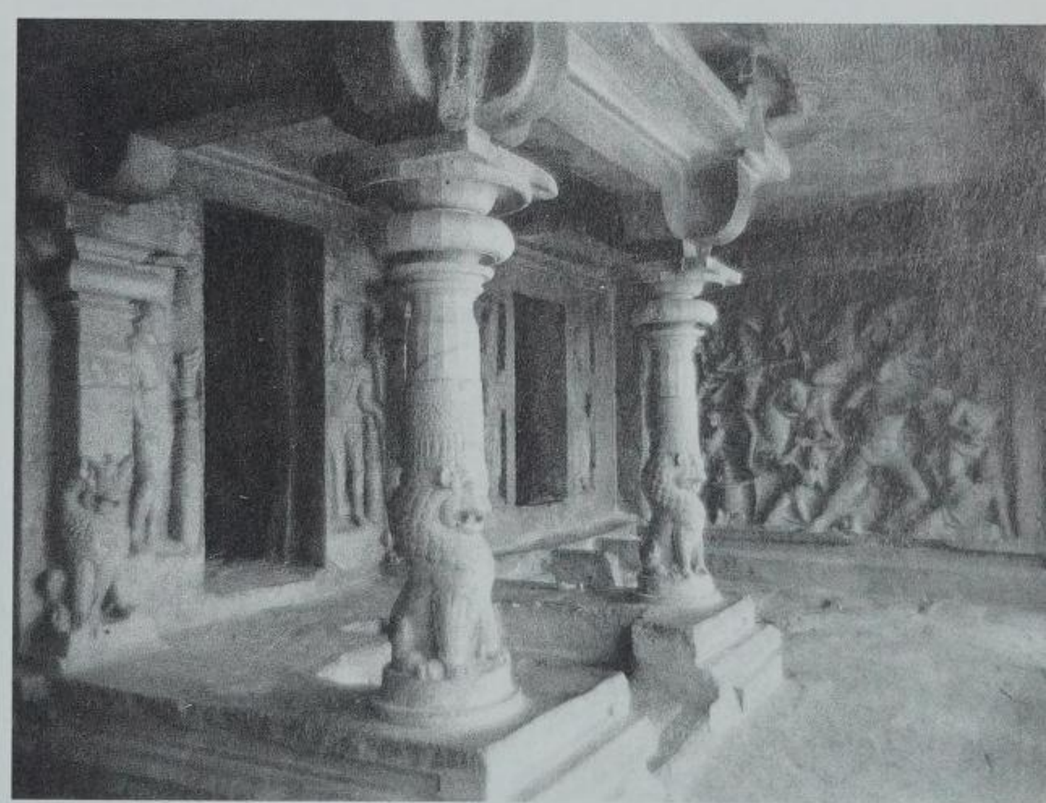


87

both these major elements are often literal representations of structural prototypes. Socles now generally consist of a plinth, a recessed zone with a semi-octagonal *kumuda* and a projecting slab, representing the floor, rather than the eaves moulding (*kapota*) encountered in the north. A permutation of the *padma-kumbha* type of column incorporating a tapering polygonal shaft festooned and with faceted capital, appears at first based on a square block, later on a seated lion (*vyala*). The edges of brackets are assertively ribbed. A frieze often relieves the cornice and later over both hall and *garbha-griha* the eaves are crowned by a miniature *prasada* terrace. The triple-shrine Mahishamardini and single-shrine Varaha – beautifully set as a '*tirtha*' beyond its finely chiselled tank – are representative of the earlier and later phases of the work of Narasimha-varman I at Mahabalipuram.[23] 28(h)

The Pallava 'Rathas' and Structural Temples

Narasimha-varman I was the conqueror of the Chalukyas in 642 when their Meguti temple was perhaps still incomplete.
10(a) The 'Rathas' carved from the rocks of his new sea-port are the earliest known free-standing stone temples in Pallava domains. These carefully imitate timber structures with the brackets, joists, rafters and cross-beams required in the originals but hardly in stone construction and certainly not in monolithic sculpture. An assertively structuralist aesthetic extends to the consistent reproduction of the architectonic socle and the Order developed in the contemporary excavated works of Mamalla but the non-architectonic, sculptural lion-base is used sparingly. Above all they mark the appearance of the characteristic southern *vimana* modelled on the *prasada* form developed for the multi-storey *vihara*. [24]

The so-called Arjuna and Draupadi Rathas, facing west and sharing a terrace supported by elephants, are dedicated to Shiva and Durga respectively: Durga appears in relief on the rear wall of the Draupadi *garbha-griha*, both deities are manifest in aedicules on each, Shiva's bull and Durga's lion are carved from neighbouring rocks. The one-storey Draupadi, with its thatch-like roof richly ornamented with simulated protective cover at the corners and supported on posts and beams, is a particularly elegant reconstruction of a simple village shrine. The Arjuna, presumably reproducing a square two-storey *vihara prasada*, is prophetic of the main line of Dravidian development: its ground floor breaks forward towards the west to form a vestibule-like porch, cell-bordered terraces surround the main chamber of its upper floor and the 'clerestory' which supports its octagonal 'cupola'. The Valaiyankuttai and Pidari Rathas resemble the Arjuna, though there are variations in the treatment of their entablatures and parapets and their cupolas are square.

Apsidal with so-called 'elephant-back' roof, the two-storey Nakula-Sahadeva Ratha faces south, rather than west, but seems to be dedicated to Indra whose elephant stands to the east. Recalling the early temples at Ter and Chezarla in plan, it evidently also reproduces a *vihara* type otherwise represented in notable excavated work only at Bedsa. The one-storey Bhima and two-storey Ganesha Rathas are rectangular and the gabled ends of their roofs frame miniature shrines. The Bhima's unfinished ground floor was possibly designed to accommodate the reclining Vishnu. The Ganesha has a small cell, facing west, and a hall like many of the rock-cut works of Mahendra-varman I.

The unfinished three-storey Dharmaraja Ratha is the grandest of the series: two *garbha-grihas* and a solid octagonal cupola are superimposed over an *apadana*-like ground floor whose plan expresses support for the chambers above. Shallow porticos relieve three sides of the ground

88. Mahabalipuram, 'Rathas': from north with Draupadi foreground.

Plate 1. Bodhi tree and votive *stupas* beside Mahabodhi Temple, Bodh Gaya.

Plate 2. (a) Sacred tank at Shravanabelagola from Indragiri; **(b)** Digambara Jaina hero Gomateshvara at Shravanabelagola; **(c)** Nandi and priest (Mysore).

2 (a)

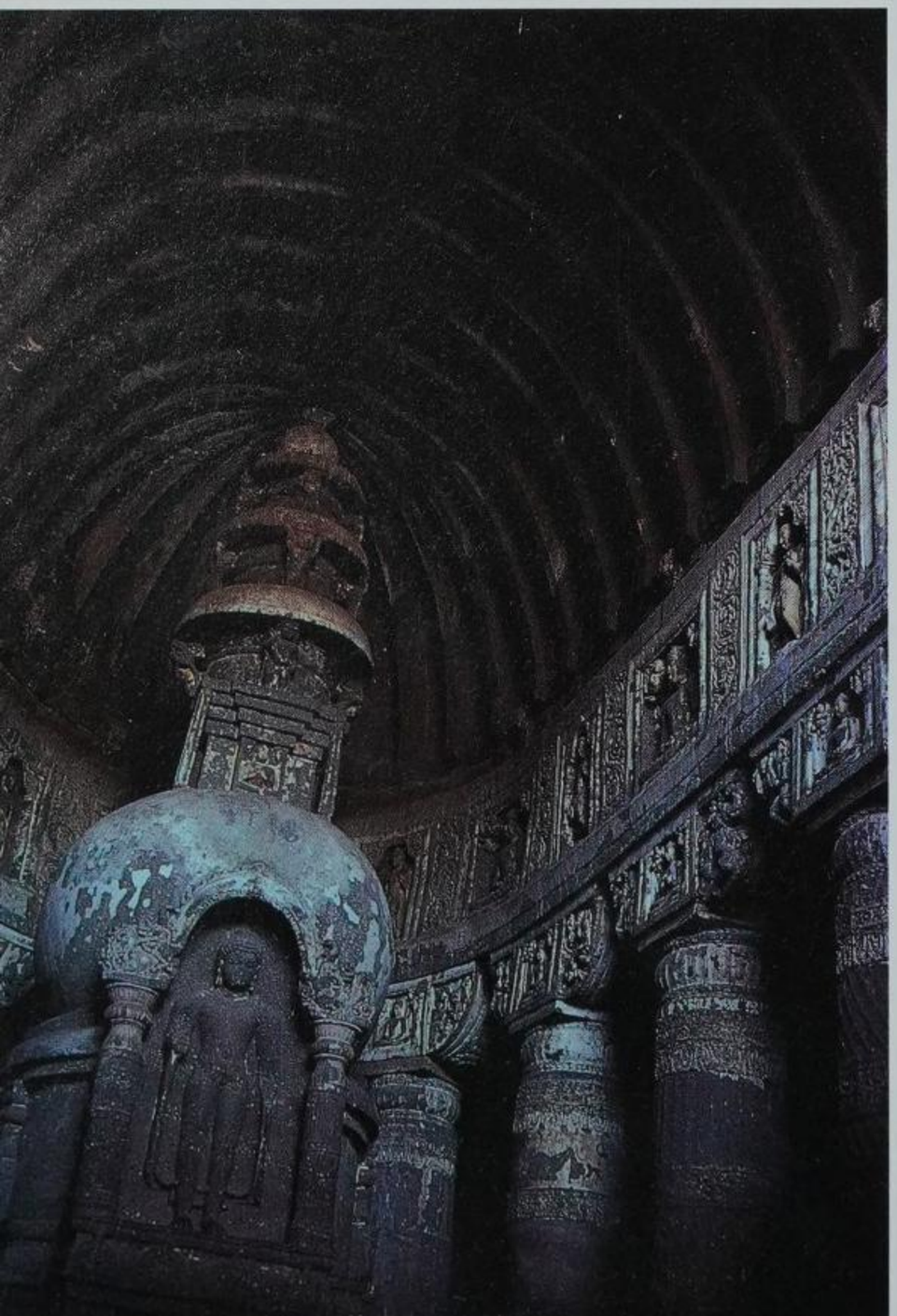
2 (b)

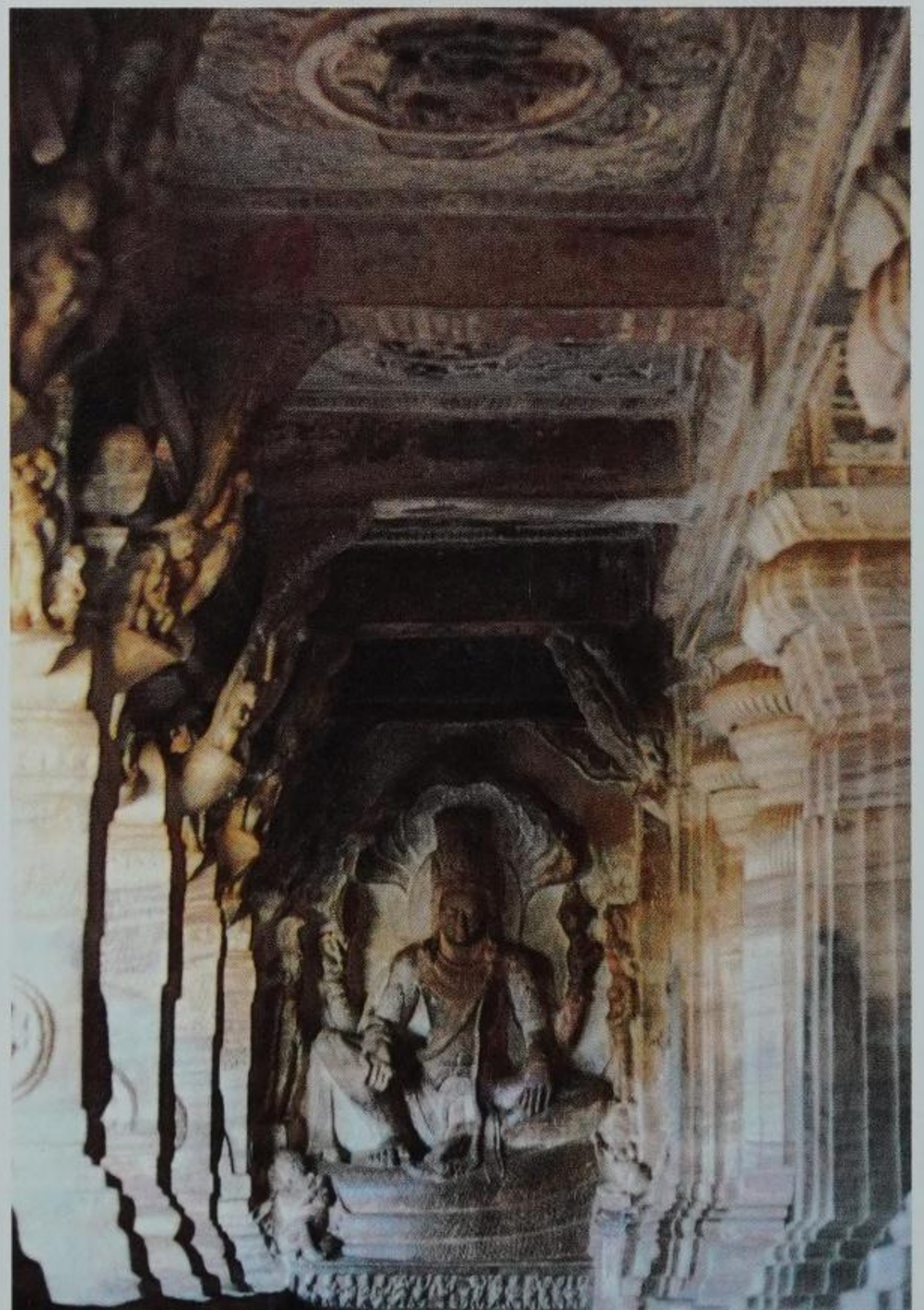
2 (c)

Plate 3. Sanchi, Mahastupa: south *torana*.

Plate 4. (a) Ellora, southern excavations with *prasada*-faced *vihara* IX; **(b)** Ajanta, *chaitya-griha* XIX: nave and *chaitya*; **(c)** Badami, Temple III: verandah.

4 (a)

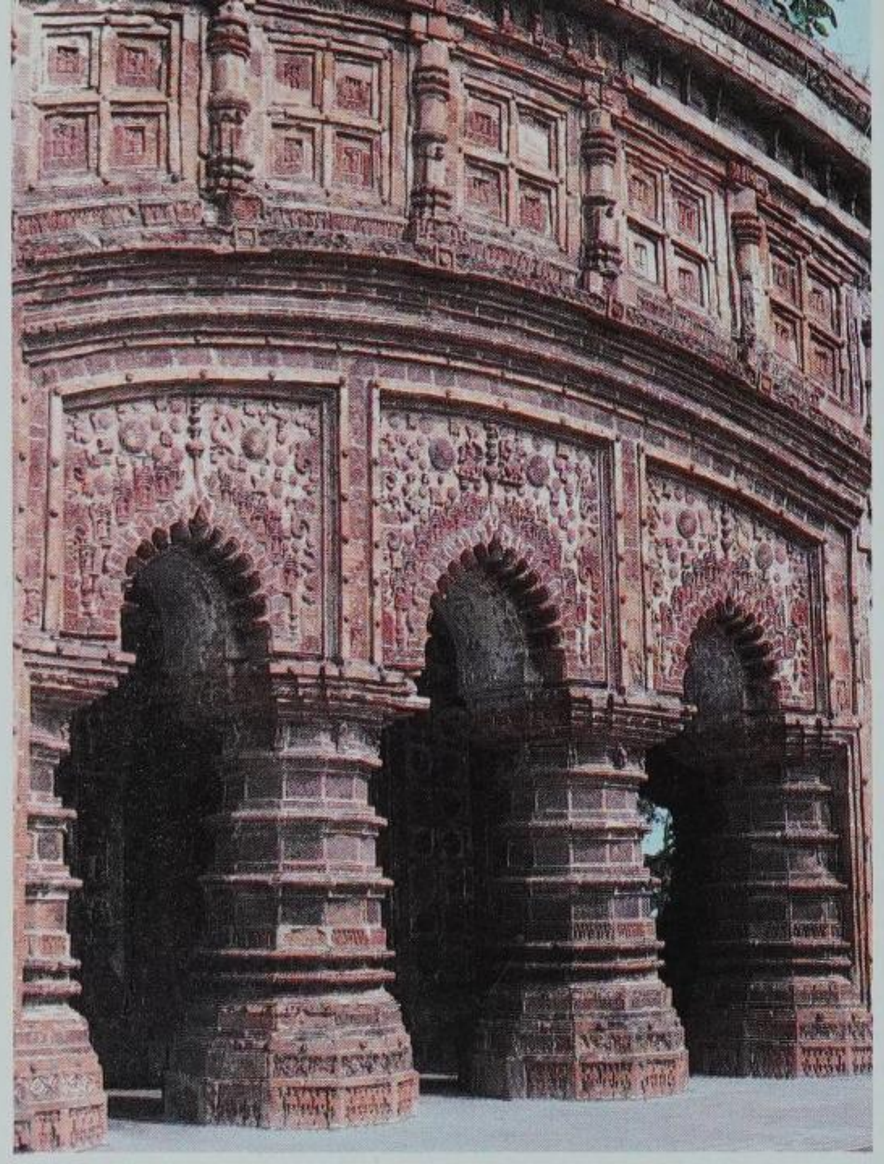




4 (b), (c)

Plate 5. Bodh Gaya, Mahabodhi Temple: entrance and votive *stupa.*

Plate 6 (overleaf). Ajanta, excavations from west.



7 (a)

7 (b)

Plate 7. (a) Bansberia, Ananta Vasudeva Temple: entrance front; **(b)** Mahabalipuram, Shore Temple: *ghana-dvara* with Somaskanda group; **(c)** Bhubaneshwar, Parashurameshvara: hall, south entrance.

7 (c)

Plate 8. Ellora, Indra Sabha from south-east with Indra's elephant right.

Plate 9. (a) Avantipur, Avantiswami Temple from south-east; **(b)** Badami, lake and hill of Shivalayas from south-east.

9 (a)

9 (b)

Plate 10. (a) Mahabalipuram: 'Rathas' from south-west; **(b)** Tillaisthanam, Mahadeva Temple: *vimana*; **(c)** Pullamangai, Brahmapurishvara Temple: *vimana*.

10 (a)

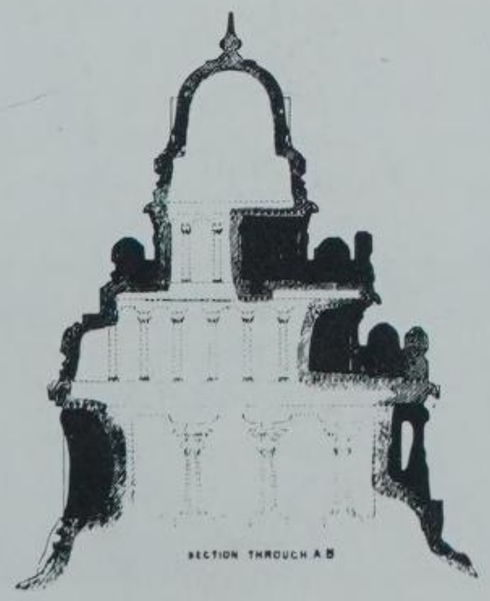
10 (b) ,(c)

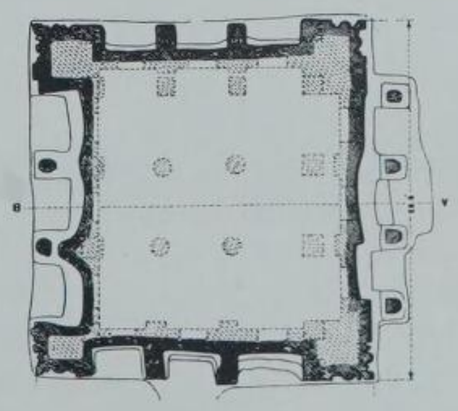
Plate 11. Tribhuvanam, Kampahareshvara Temple: detail of *vimana*.

89 (a)

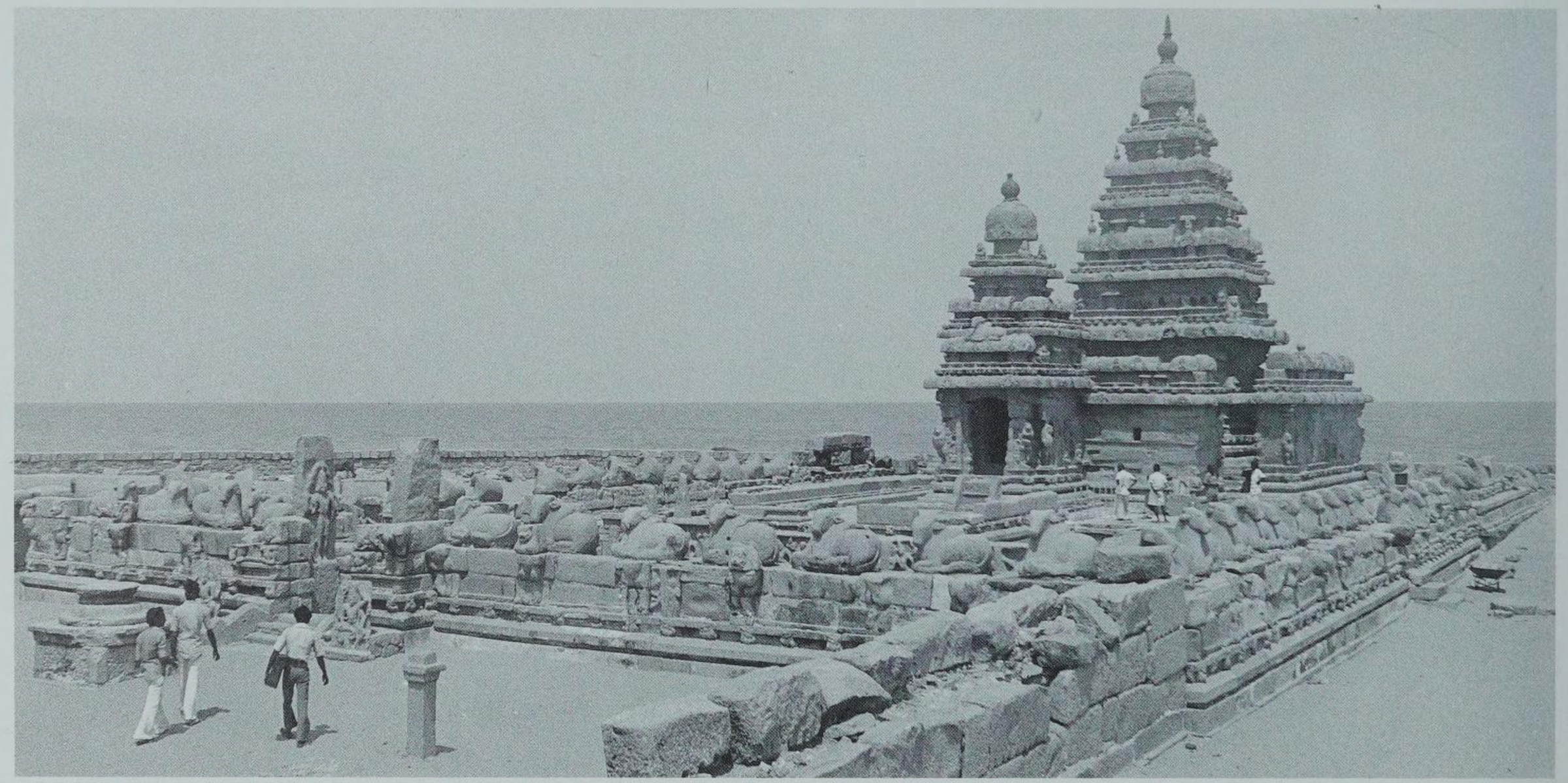
89 (b)

89. Mahabalipuram, 'Rathas': **(a)** Ganesha; **(b)** Arjuna.





90. Mahabalipuram, Dharmaraja Ratha section, plan, elevation.



91 (a)

91 (b)

91. Mahabalipuram, Shore Temple: **(a)** from west; **(b)** east entrance from sea.

floor and an equally shallow porch projects from the west front. The parapets, with cubicles as well as square and rectangular cells, are detached from the upper chambers to permit circumambulation. At all levels there are fine manifestations of the deity in addition to *dvara-palas*. In the socle the usual floor slab is replaced by a *kapota* surmounted by an elephant frieze.

The hewing of temples from the living rock was to be superseded by masonry construction at Mahabalipuram under Narsimha-varman II Rajasimha (c.690–728). The Shore Temple, assigned to his reign in whole or in part, initiated the seminal series of Pallava structural temples, dominated by the Talagirishvara at Panamalai, the Kailasanatha and Vaikuntha-perumal at the dynastic seat, Kanchipuram. A tendency towards floridity, marked at the Kailasanatha, stems from the process of symbolic elaboration initiated at the Shore Temple, for example by the replacement of the main rectangular plinth-slab with a generous *padma*. These works also provide the prototype for the monumental entrance (*gopura*) which was to be such an important feature of the southern temple – indeed the development of the enclosed complex, responding to the southern elaboration of Hindu temple life, began here.[25]

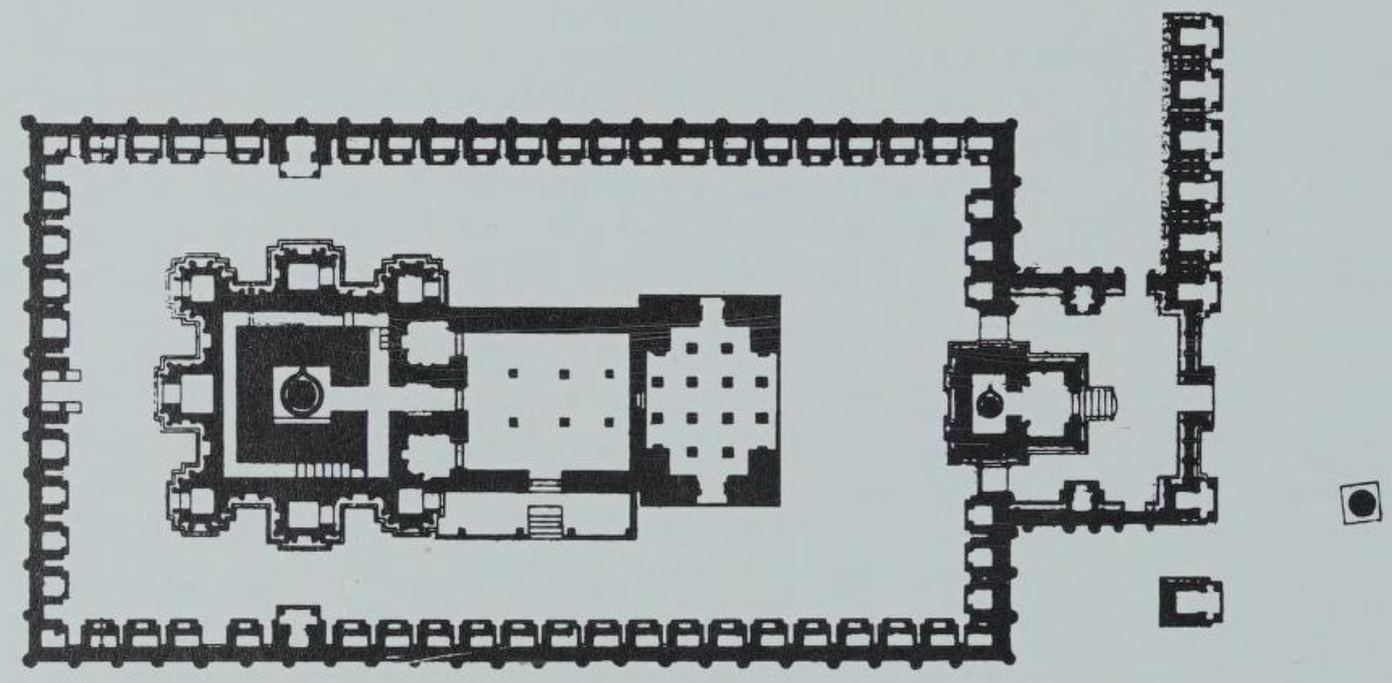
7(a) The Shore Temple consists of two Shiva shrines – the smaller one sheltering a superb relief of Shiva, Parvati (Uma) and their son, the war-god Skanda (Someskanda) – and a cell enclosing an earlier rock-carving of the recumbent Vishnu. With probably-later ancillary buildings, these are informally and somewhat unsatisfactorily related to one another within an enclosure (*prakara*). In several important respects the two Shiva shrines reflect the example of the 'Rathas'. Each *vimana* consists simply of a square *garbha-griha* preceded by a shallow porch but the porch is largely enclosed and the relationship and relative sizes of the two elements are close to those between the *mulaprasada* and contiguous vestibule in the Meguti Temple at Aihole – the absence of an integrated hall seems particularly significant in the light of the Pallavas' earlier excavated and later structural examples. An enclosed ambulatory was an important element in the Meguti plan: here circumambulation is defined by the enclosure wall which closely follows the ground floor of the main *vimana*. Open to the secondary shrines and the later subsidiary buildings within a lower enclosure to the west, the compound is entered from the east through a gate (*gopura*) covered by a transverse barrel-vault.

The exteriors are articulated with pilasters like most of the 'Rathas' and the Meguti at Aihole, though their grouping is somewhat uncertain and no attempt was made to pair them about projections and recessions in the mass. As the three- and four-storey *vimanas* rise over comparatively restricted volumes, no attempt having been made to impose the logic of the multi-storey structure on the plan, their profile is markedly steeper than that of the Dharmaraja Ratha. Elegance rather than monumentality is further enhanced by the finials and the high open treatment of the upper and lower storeys, which have heraldic beasts instead of parapets except over the porches. To augment the base mouldings found in the 'Rathas' and excavated temples, a *padma* is added above the socle in part and there is a frieze of *vyalas*. Rearing *vyalas*, together with other heraldic beasts, replace the squatting *vyalas* of Mamalla's columns.

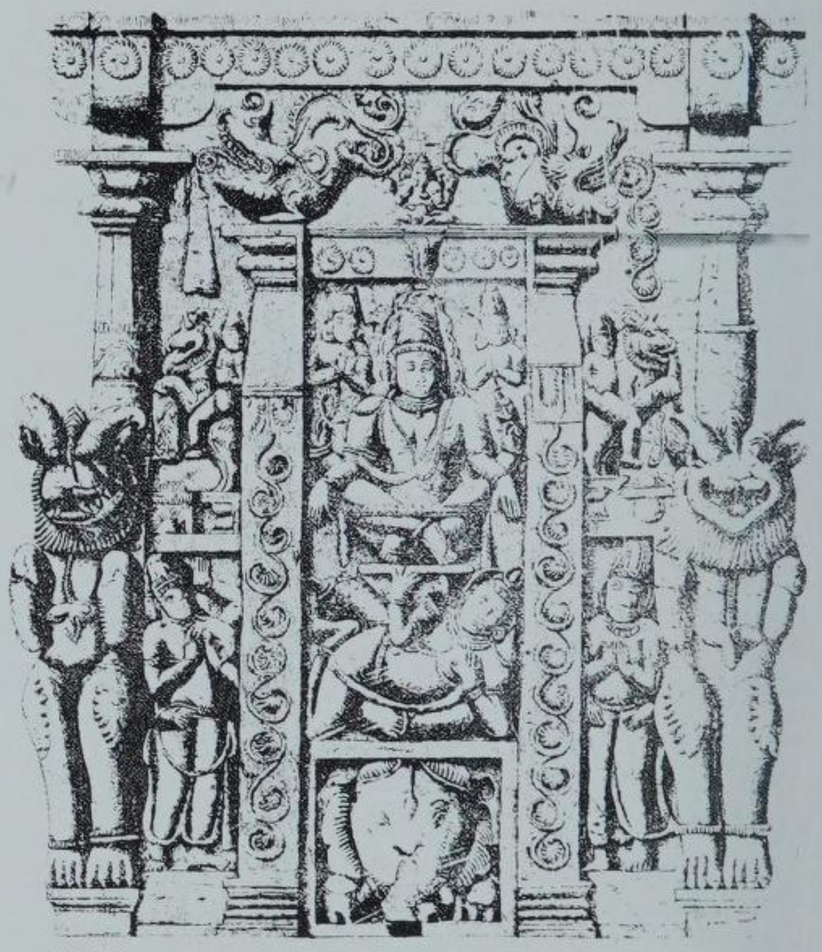
The Kailasanatha of Kanchipuram develops the theme of the enclosed complex, consistently articulating the regular integration of the principal and subsidiary shrines, enclosing the ambulatory within the *vimana* and incorporating a detached hall (later joined to the *vimana* by another hall) within a clearly defined compound. There are no less than nine subsidiary shrines, all facing east or west, integrated with the *vimana* and helping to buttress it. The Talagirishvara at Panamalai may be seen as providing the precedent for the integration of the principal and subsidiary shrines: there one adheres to the centre of the north, south and west of the *vimana* and like the entrance porch on the east, their superstructures are incorporated in the parapet of the first storey.

The Kailasanatha's *vimana* has four storeys, like the main ones at the Shore Temple and Panamalai, and statues of Nandi occupy the upper terrace but the pyramidal gradation of the three floors with detached parapets, effectively resolved in a great octagonal 'cupola' with prominent dormers, is broadly based like the Dharmaraja Ratha. A simplified version of the Arjuna Ratha serves for the fifty-eight Shiva shrines which back onto the enclosure wall and the eight which flank the entrance. In contrast to the octagonal cupolas which crown these, elongated roofs in varying degrees of elaboration cover the western portal, the Vishnu and Brahma shrines attached to the enclosure wall on the north-south axis of the *vimana*, the Shiva shrine of Mahendra-varman III just within the main entrance, and the main portal itself which further develops the *gopura* prototype of the Shore Temple. Columns and pilasters have *vyala* bases like those of the Shore Temple and the edge of the bracket is often a simple, unfaceted curve. The socle has a frieze of dwarfs above the plinth rather than a major *padma* moulding and an elephant frieze above the faceted *kumuda*. Iconic ornament proliferates and a tendency towards floridity is apparent in the fan-like treatment of the dormers, the incised edging of the 'cupola' which culminates in a great *padma* from whose up-turned petals sprouts the finial. As in most Pallava temples, granite was used for the base and major structural members, sandstone for the rest, except where brick is used for sculptural elements, but all was covered in stucco and painted in stark primary colours.

The balance between elegance and monumentality redressed by Rajasimha's architects, impressed the Chalukya king Vikramaditya II – as an inscription on the Kailasanatha relates. In the many works of Nandi-varman's extensive reign (c.731–96) the tendency towards floridity already noted



92 (a)



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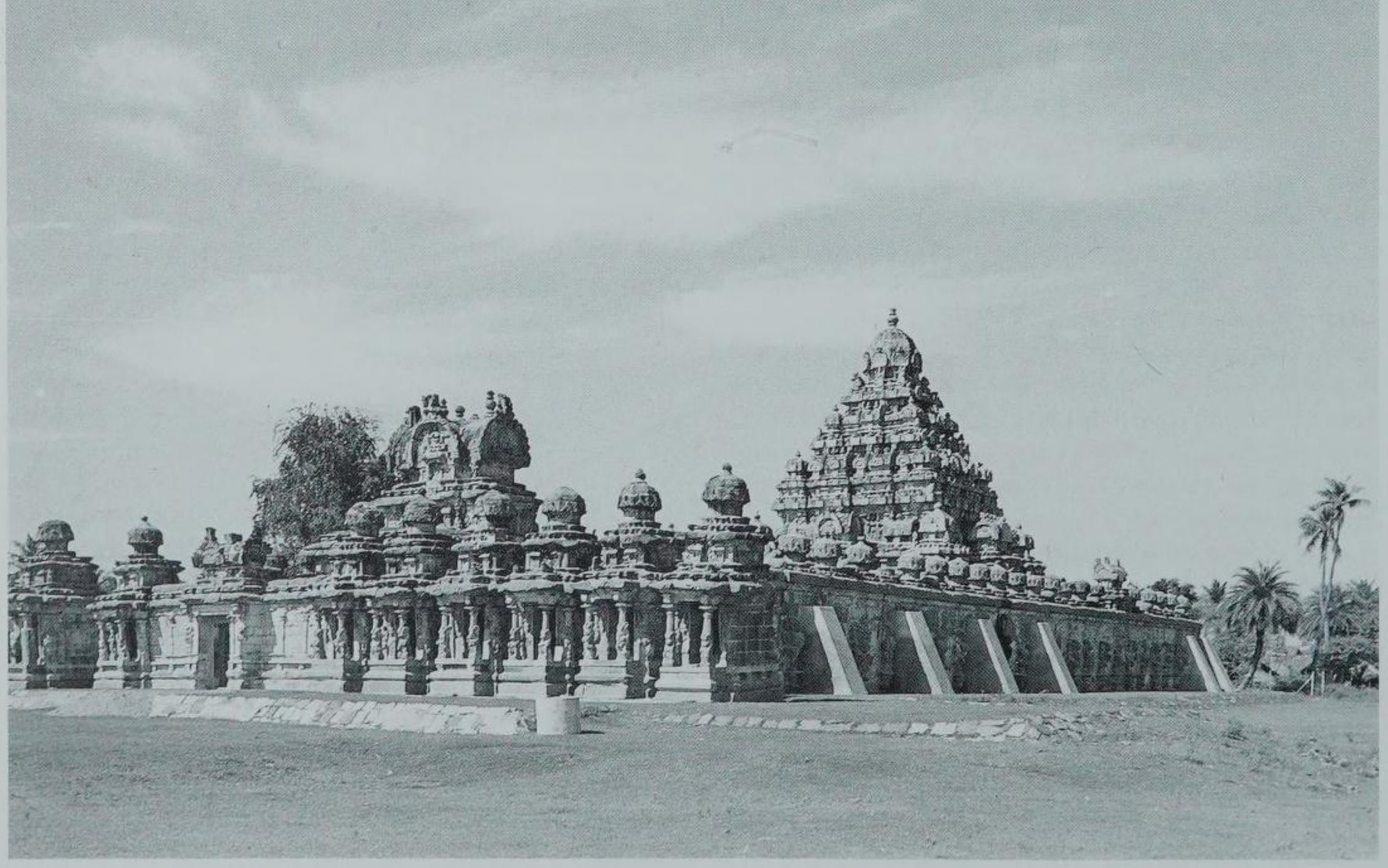
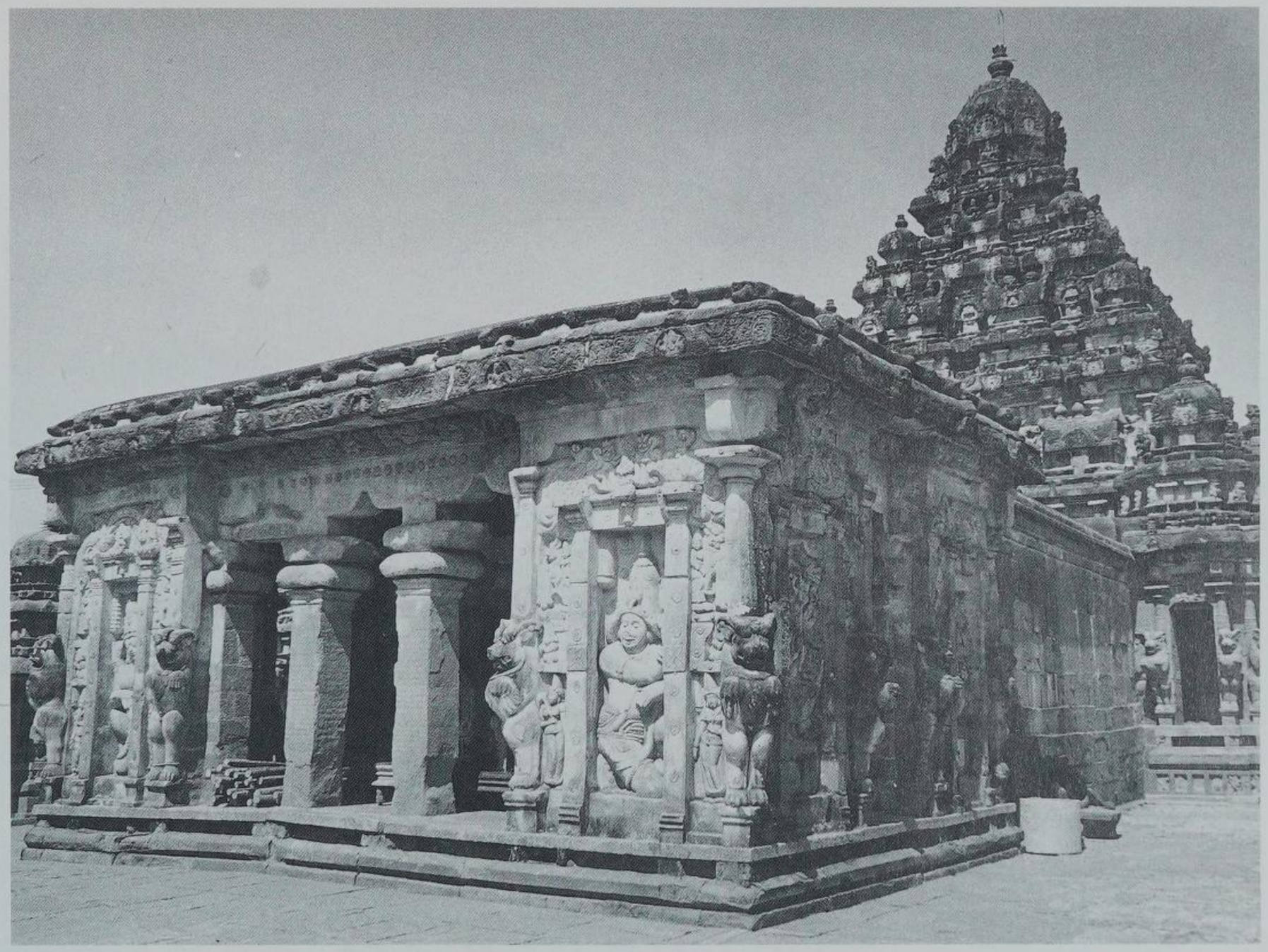


92 (c)

92. Kanchipuram, Kailasanatha Temple: **(a)** plan (1:500); **(b)** detail of *vimana ghana-dvara*; **(c)** from north-east; **(d)** *mandapa* and *vimana*; **(e)** *gopura* from within.



92 (d)

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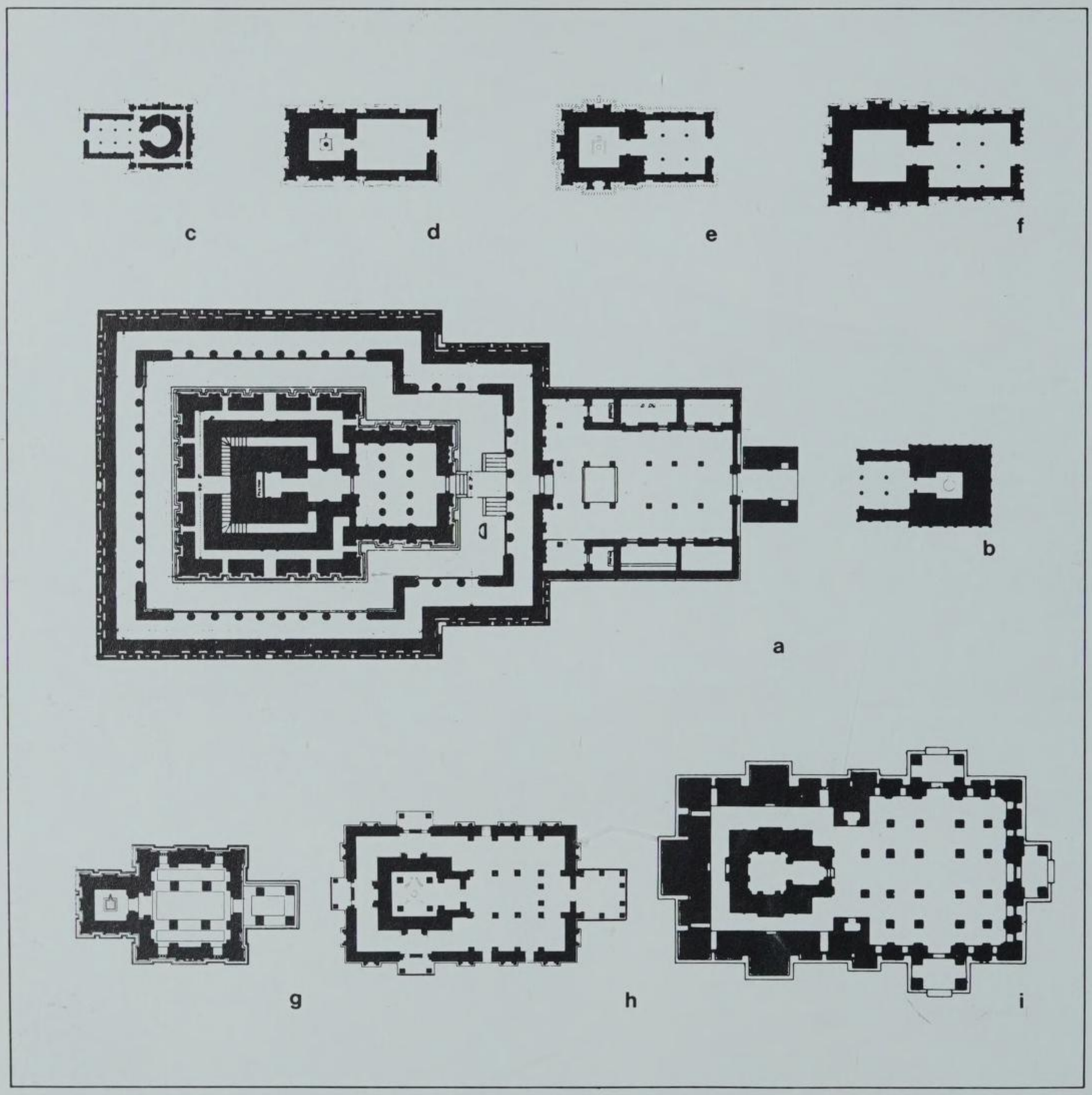


93. Temple plans II (1:500): **(a)** Kanchipuram, Vaikuntha-perumal; **(b)** Kanchipuram, Mukteshvara; **(c)** Narttamalai, Vijayalayacholishvara; **(d)** Kumbakonam, Nageshvarashvami; **(e)** Tirupattur, Talinatha; **(f)** Pullamangai, Brahmapurishvara; **(g)** Badami, Malegitti-Shivalaya; **(h)** Alampur, Svarga Brahma; **(i)** Pattadakal, Mallikarjuna.

was furthered, for instance, by the addition of a *kalasha*-like neck and festoons to columns or pilasters and the distinction of a petalled *padma* from a simple dish-shaped abacus. Often modest in scale like the Mukteshvara or Matangeshvara of Kanchi, emulation of earlier, greater works is apparent in such late foundations as the four-storey Kailasanatha of Tiruppattur and the predominantly brick Sundaravara-perumal of Uttiramerur. The latter, in fact, pays somewhat decadent homage to the Pallavas' culminating masterpiece, the Vaikuntha-perumal of Kanchi.

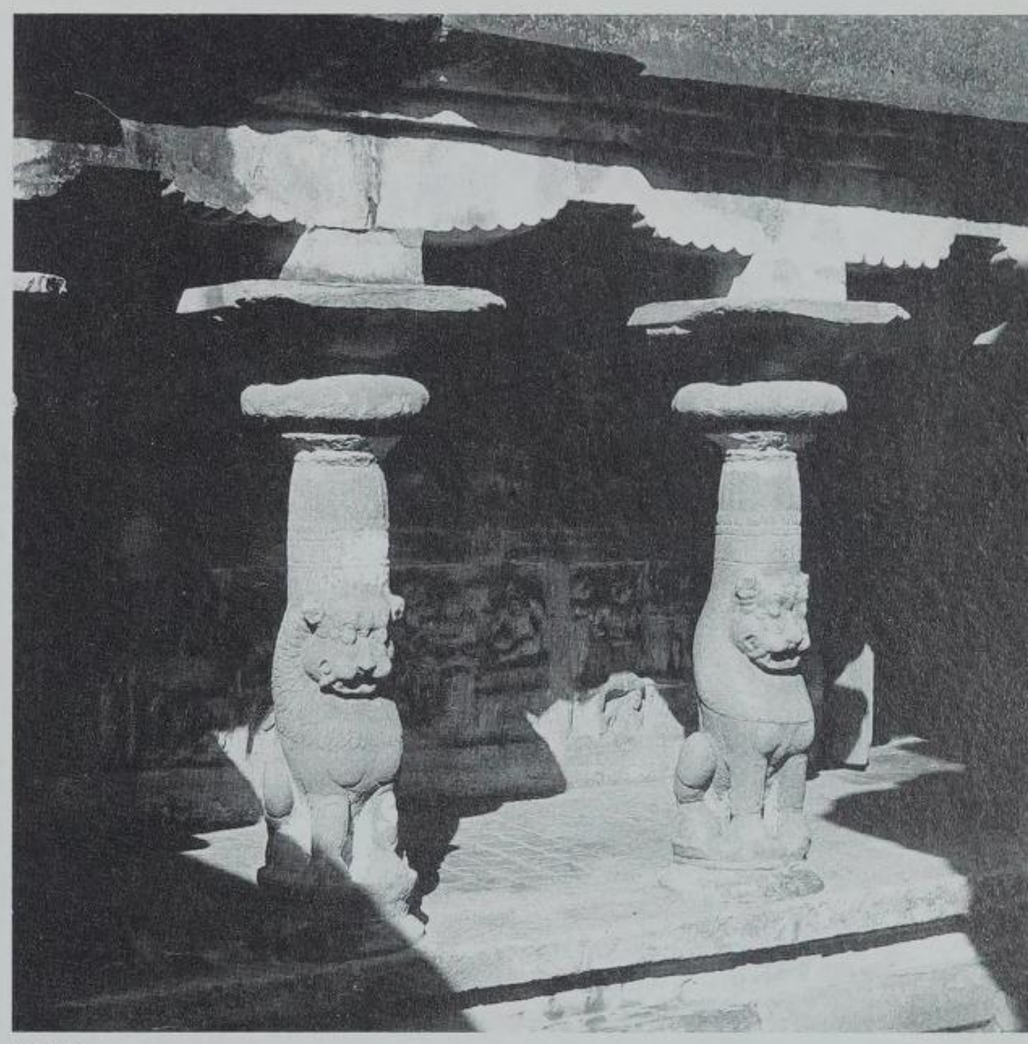
93(b); 49(a)

Further developing the theme of the Shore Temple, the Vaikuntha-perumal has a closed hall attached to the v*imana*, in place of a porch, and their configuration is closely followed by the cloister-backed enclosure wall. All four storeys have a *garbha-griha* – the lower three with Vaishnava icons – and the massive structure needed for them encloses an ambulatory at ground level in addition to a passage and stairs leading to the parapet-bordered terraces, which provide for circumambulation about the upper sanctuaries as they must have done in the original *vihara* prototype. Garuda replaces Nandi on the top platform. The main base is similar to that of the Kailasanatha in all essentials but lions are less

93(a)

94. Kanchipuram, Vaikuntha-perumal Temple: **(a)** section; **(b)** from north-east; **(c)** cloister; **(d)** *vimana* detail

94 (a)

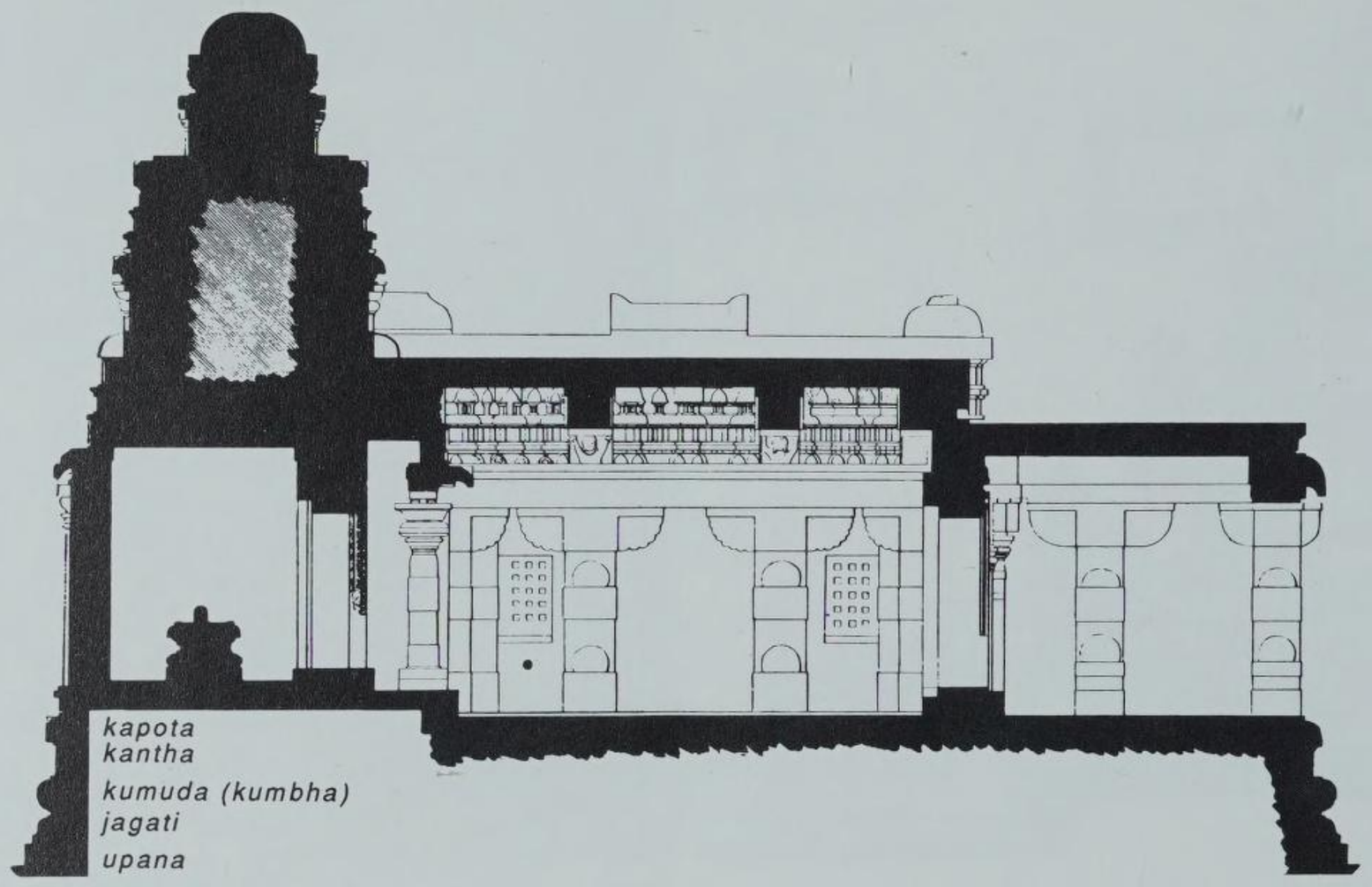


94 (b)

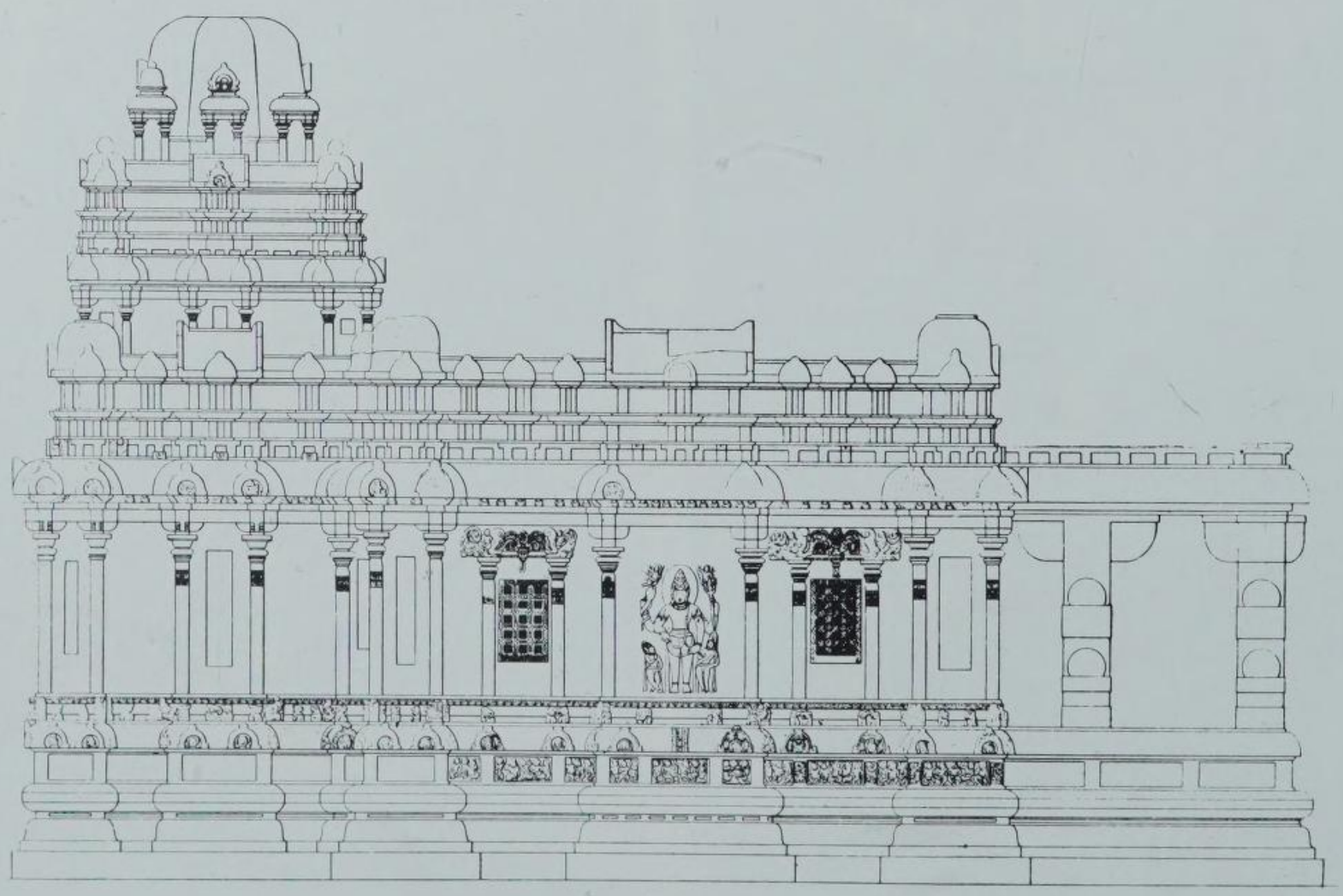
94 (c)

94 (d)

95. Badami, Malegitti-Shivalaya Temple: **(a–b)** section and elevation.



95 (a)



95 (b)

obsessively applied to the bases of the columns. The central projections to the *vimana* are void to admit light and smaller windows open between the subsidiary projections, but elsewhere lavish iconic sculpture and unique dynastic reliefs still relieve the walls.

As impressively monumental as the principal masses of the Kailasanatha, but more fully integrated in plan and somewhat less hectic in detail, the Vaikuntha-perumal was the last great architectural achievement of the Pallavas before the arrival of Vikramaditya II and it is tempting to believe that the architects of this work were those supposed to have been taken off in the Chalukyan train to newly founded Pattadakal.

Temples of the Restored Chalukyas and their Successors

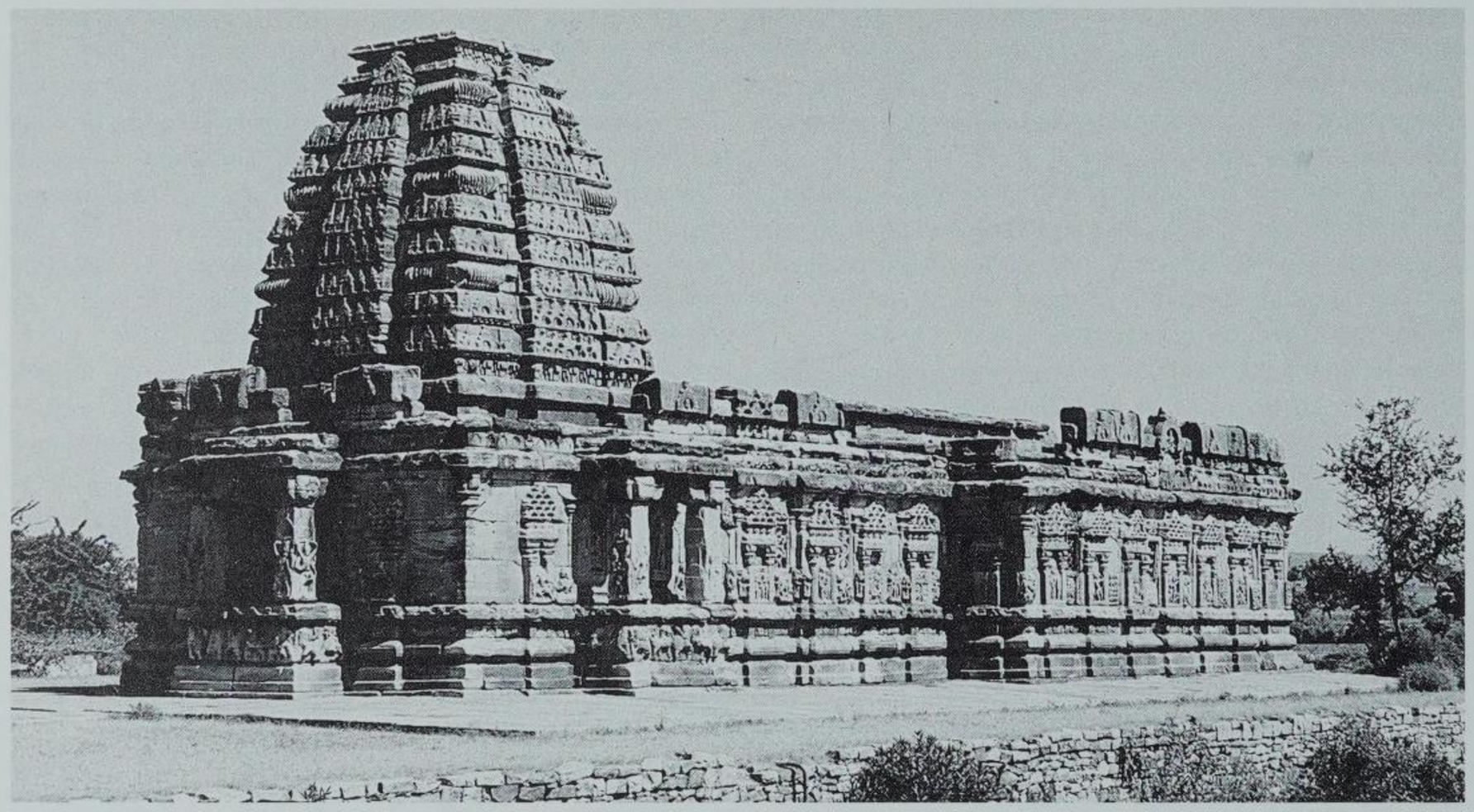
It is possible that some of the more mature Aihole temples of both the Huchchimallagudi and Narayana types may have been built after the Meguti – that is, after Vikramaditya I (c. 655–681) ousted the Pallavas. However, most later 7th-century inscriptional evidence suggests that building activity was then concentrated on Badami (the political capital), Pattadakal (a dynastic cult centre), and provincial centres like Alampur in the east.

The Badami works include the Upper, Lower and Malegitti Shivalaya Temples on the spur of rock behind the town to the north, the Bhutanatha and Lakulisha on the lakeside and the Mahakuteshvara and Mallikarjuna which dominate a group just outside the town. The plans of the Malegitti Shivalaya and Bhutanatha temples derive from the Aihole Narayana type, the Upper Shivalaya and Lakulisha from the Huchchimallagudi type. The two main temples at Mahakuta are related in plan to the Lakulisha but their halls are distinctly broader.[26] *9(b)* 93(g) 53(h) 53(g)

The simple square piers with weighty brackets, familiar from Aihole, are retained as the basic means of support. As in the Meguti and many Pallava works, outer walls are articulated with pilasters of the *padma-kumbha* kind paired about projections and bearing beams and brackets with ribbed edges. Unlike the Meguti, a tendency to centralized articulation is apparent on the hall of the Malegitti, where the projections bear powerful iconic reliefs and are flanked by recessed screened windows under *makara-toranas*, and at Mahakuta where they break forward twice from walls otherwise relieved only by pilasters at the corners.

Socles are generally still like that of the Meguti – and indeed, the Dharmaraja Ratha of Mahabalipuram. The *khura* of the Malegitti, however, is given a *padma* profile and there is an iconic frieze between the *kumuda* and *kapota*. At

96. Mahakuta, Mahakuteshvara complex from south-east.



97. Pattadakal, Papanatha Temple: **(a)** from south-west; **(b)** hall towards sanctum.

98. Pattadakal, Sangameshvara Temple from south.

99. Pattadakal, Mallikarjuna Temple: from north-west.

97 (a)

Mahakuta the *kumuda* is capped immediately by the *kapota* but this, in turn, is surmounted by two friezes separated by a lotus fillet.

At this stage, probably for the first time, the Chalukyan architects adopted the Dravidian form of *vimana* but their compositions were heavier, less supple than those of the Pallavas. In the Upper and Lower Shivalayas the elements of the attached parapets tend to be assimilated with one another. More differentiation is certainly apparent in the Malegitti and Mahakuta works, but the Bhutanatha is perhaps the most lucid of the group.

Of some ten temples at Pattadakal four great Shaivite foundations are predominant: the Papanatha, which follows the northern *shikhara* precedents set at Aihole, the Sangameshvara, Virupaksha, and Mallikarjuna, which take up the southern theme stated in the Malegitti works at Badami. If both the alternatives evolved at Aihole are represented amongst the Badami temples, the Meguti seems to have been the starting point for the architects of Pattadakal. Massive piers, square in section and with applied relief, predominate but external articulation reminiscent of Pallavan work develops the Meguti theme.[27]

The Papanatha is composite in plan, like the Meguti, but of two distinct volumes: a rectangle contains the *garbha-griha*, ambulatory and hall as in the Huchchimallagudi type, but to it is attached a large 'nine-square' entrance hall. Balconies protect the screened windows which light the ambulatory and a porch projects from the entrance hall. The mechanical repetition of aedicules along the side elevations does nothing

97 (b)

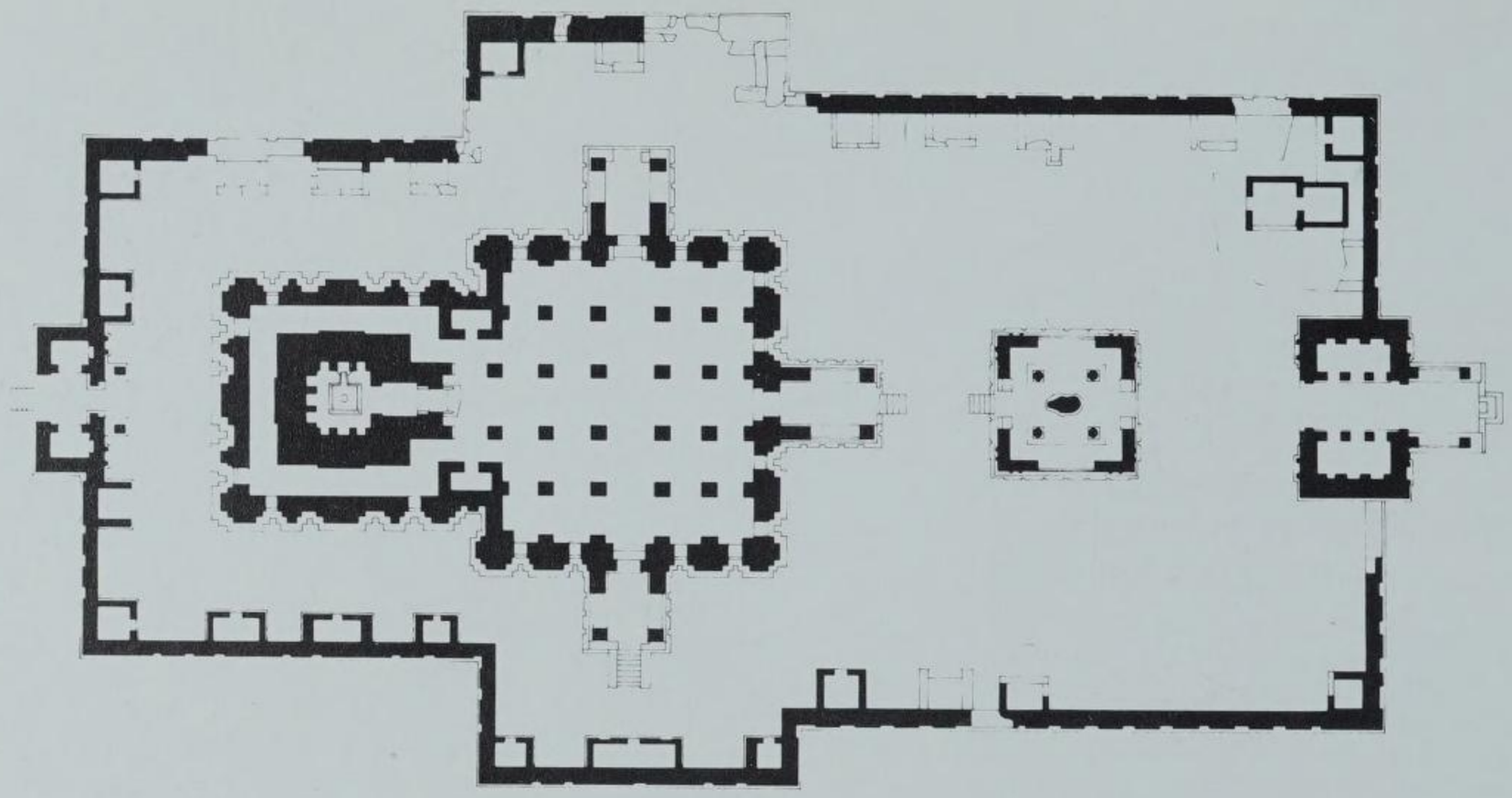
98

99

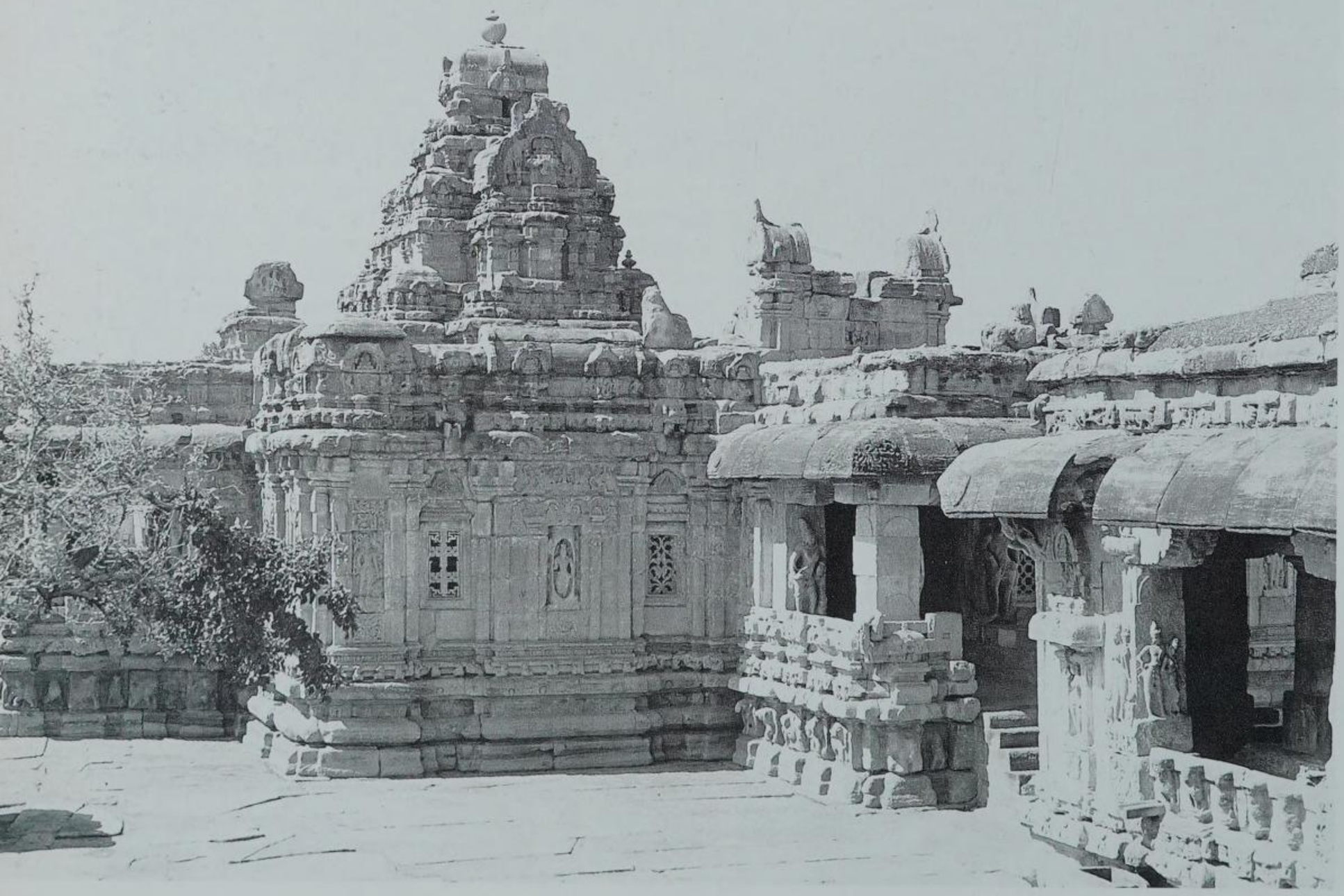
to alleviate their protracted horizontals. A three-storey *shikhara* rises inadequately over the elongated cornice which incongruously bears a southern parapet. The tiers of miniature blind lunettes on its central projection make a somewhat lacy pattern, if not yet quite a mesh like that which surmounts the aedicules on the walls below. The *shikharas* of Alampur are similar in detail but those of the Sala, Svarga and Vishva Brahma temples, which are closely related to the Papanatha in articulation, provide a more effective complement to the contracted horizontals of the mass below despite the weighty cornice from which the anomalous parapets have been eliminated. Later northern *shikharas* at Pattadakal itself – the Galganatha and Jambulinga for example – follow suite.

The elongation of the Papanatha was corrected in two alternative ways, both using square *garbha-griha* and hall. In the Sangameshvara the inner hall is reduced to a constricted rectangular vestibule – with side shrines for Durga and Ganesha occupying little more than the thickness of the wall separating the *garbha-griha* and the large main hall. In the Virupaksha this intermediate space is merely a connecting link between the main hall and a generous vestibule which projects from the *garbha-griha* as in the Vaikuntha-perumal at Kanchi. On the other hand, the elimination of the entrance

100. Pattadakal, Virupaksha Temple: **(a)** plan (1:500); **(b)** from south-east; **(c)** Nandi pavilion; **(d; overleaf)** hall towards sanctum.



100 (a)

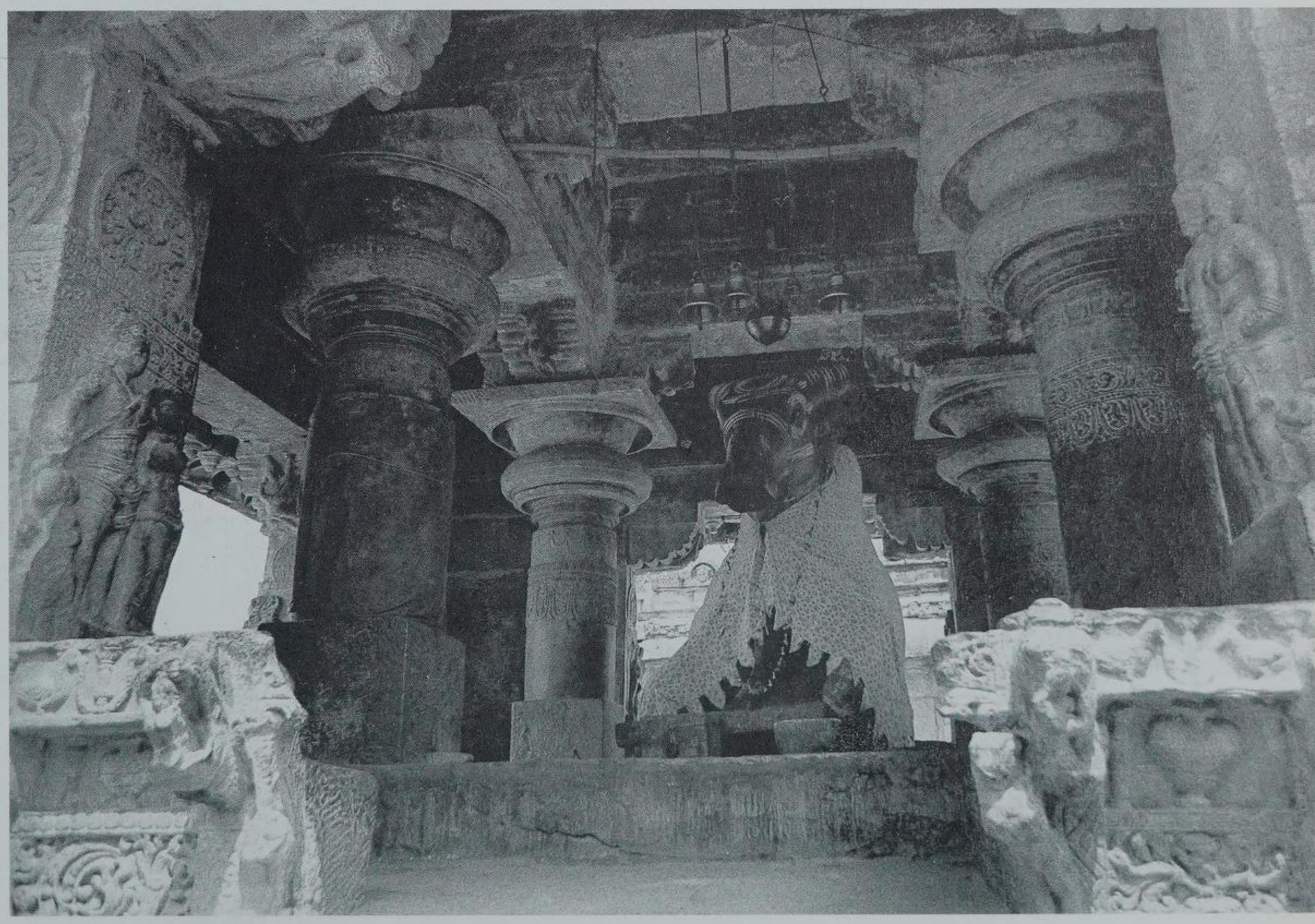


100 (b)

hall and the expansion of the Huchchimallagudi formula was more popular with Chalukyan architects in and around
93(h) Alampur, notably for the Svarga Brahma. Something of a synthesis between these two approaches is apparent in the
93(i) Mallikarjuna of Pattadakal where, by varying the thickness of the walls, the *garbha-griha* and the main hall are contained in a basic rectangle, though the latter remains the larger space, and the vestibule projects into the area won from the thickness of the intervening mass.

The socles of the great works at Pattadakal are elaborations of the type represented at Badami in the Malegitti-Shivalaya, surmounted by the kind of frieze popular with the Pallavas. The projection of articulated central bays from the *vimana* is generally in line with southern practice but sculptural ornament, rather richer than in Chalukyan works earlier then the Shivalayas, is still largely confined to the relevant icons in aedicules framed by *toranas* or miniature shrine fronts. Great square piers are still the basic means of support but they are occasionally relieved with bands and medallions and those of the Virupaksha and Mallikarjuna are incised with exceptionally fine representations of narratives from the Epics. The bracket is still ubiquitous but it is now frequently treated to an elegant wave moulding beneath *kirttimukhas*. The *padma-kumbha* Order plays the dominant role in the articulation of walls and in shrine portals which generally bear lintels representing multi-storey *prasada vimanas*. An important permutation of this type of support is represented by the somewhat squat, round or octagonal columns with brackets resting on flattened *kumbha* above progressively wider rings in the hall of the Papanatha and the Nandi-pavilion of the Virupaksha.

The concern with relief and a more even gradation of tiers, apparent in the southern-style *vimanas* of Badami, was furthered at Pattadakal. The vigorous monumentality of the Pallava works, deriving from a clearly defined pyramidal form and the crisp delineation of carefully attuned parts, eluded the three-storey Sangameshvara. It is fully realized in the four-storey Virupaksha with its typically Chalukyan square cupola unencumbered by a full parapet, but the Mallikarjuna's circular cupola stands out on its platform in sharp distinction from massing that is less than purely geometrical. However in the articulation of its masses the



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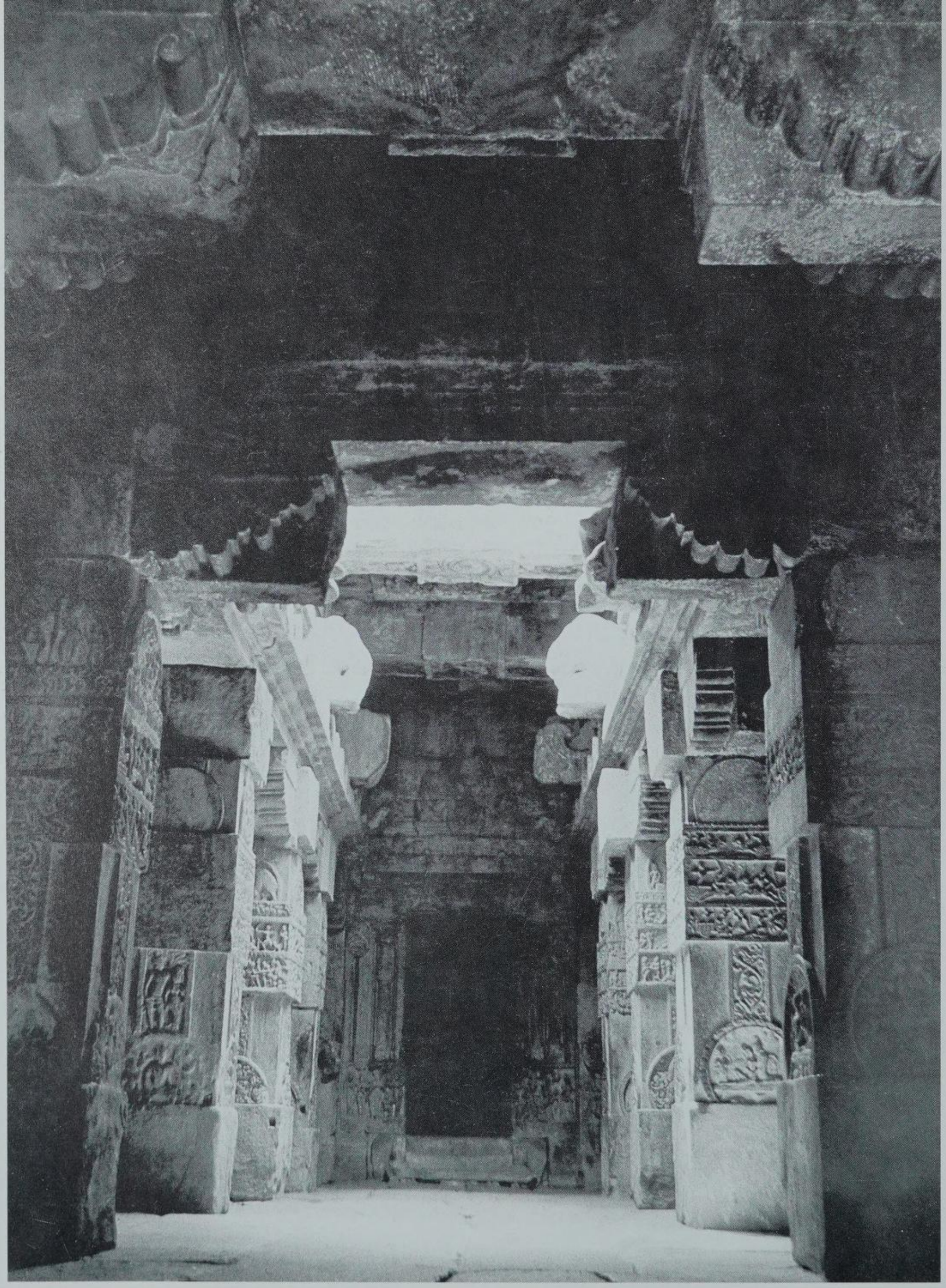
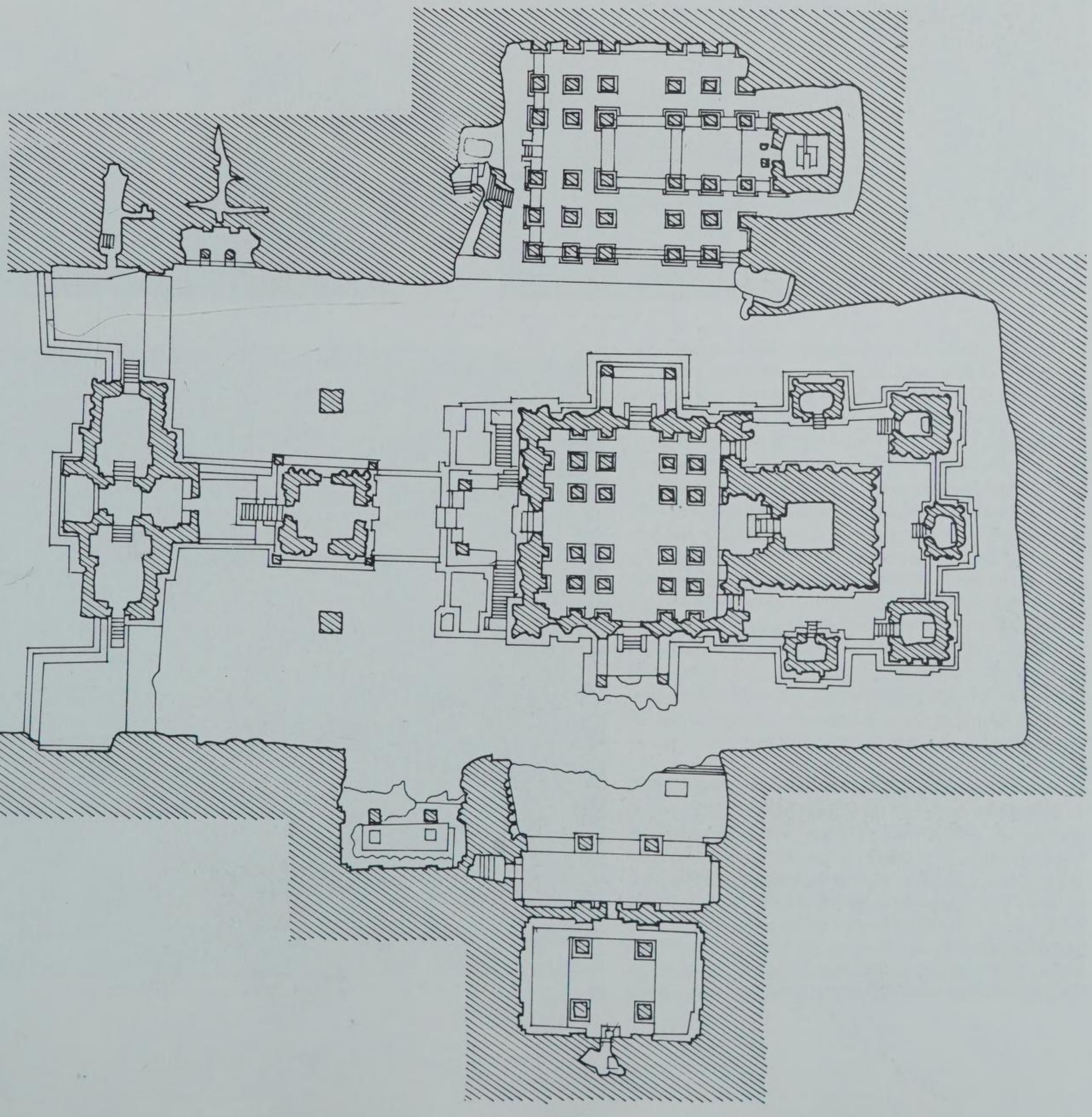


100 (d)

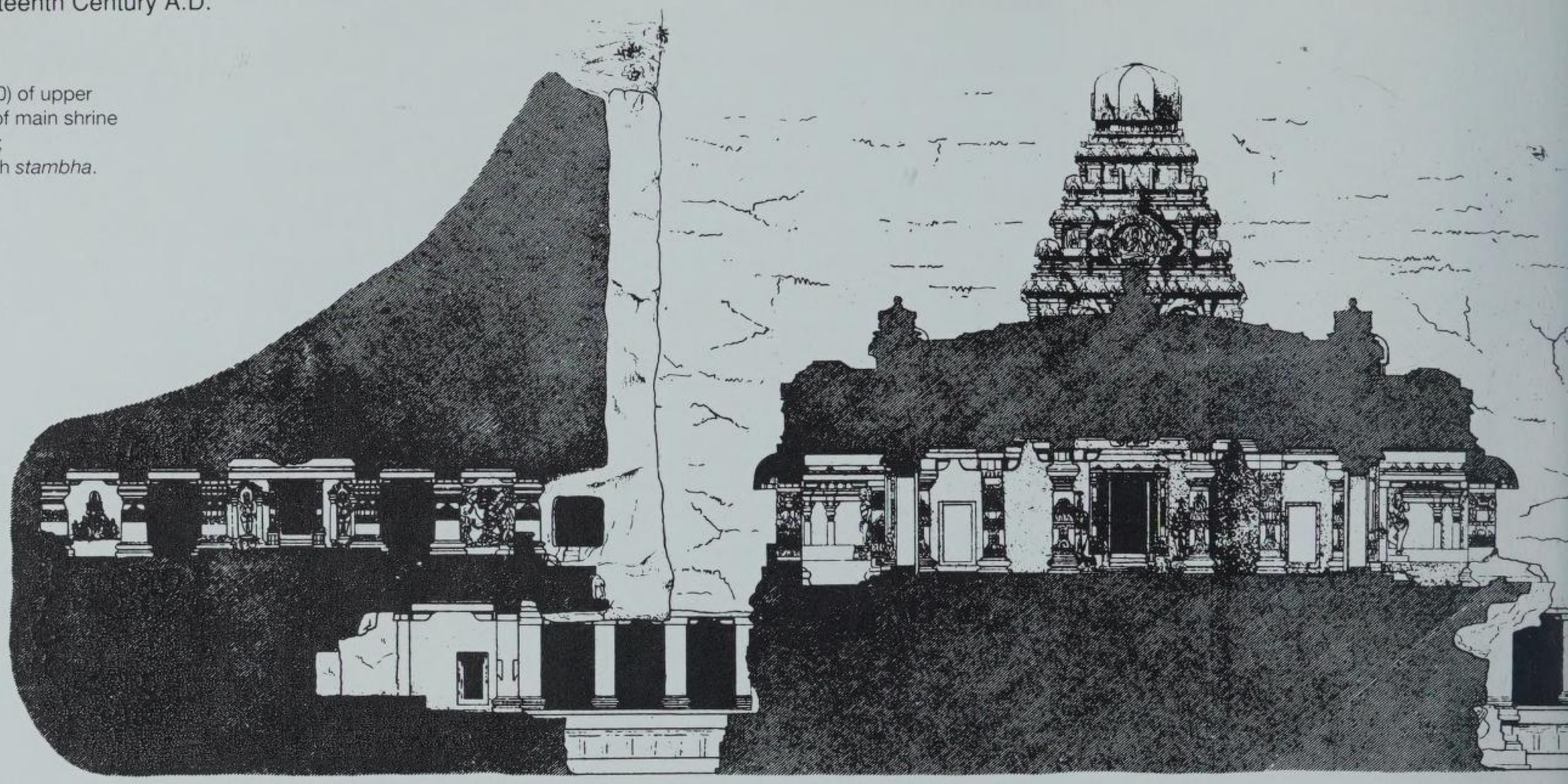
Malikarjuna is hardly inferior to the Virupaksha. Instead of the more or less regular alternation of projections and recessions taken to somewhat tedious extremes at the Papanatha, both the temples of Vikramaditya II's queens are treated to a progressive development of weight and richness from the sides to the centre of the mass after the prophetic example of the Mahakuteshvara. This is reflected in the treatment of the parapets in each successive storey and on the cornice of the halls and it is developed in cross reference to the northern form, first encountered at Sirpur, with the introduction of a pediment over the vestibule to ease the transition from the verticals to the horizontals at their greatest extent.

The Rashtrakuta king Dantidurga, who dispossessed Vikramaditya II's successor Kirtivaman II (744–757), was engaged at the time in excavating temples at Ellora – notably

101 (a)



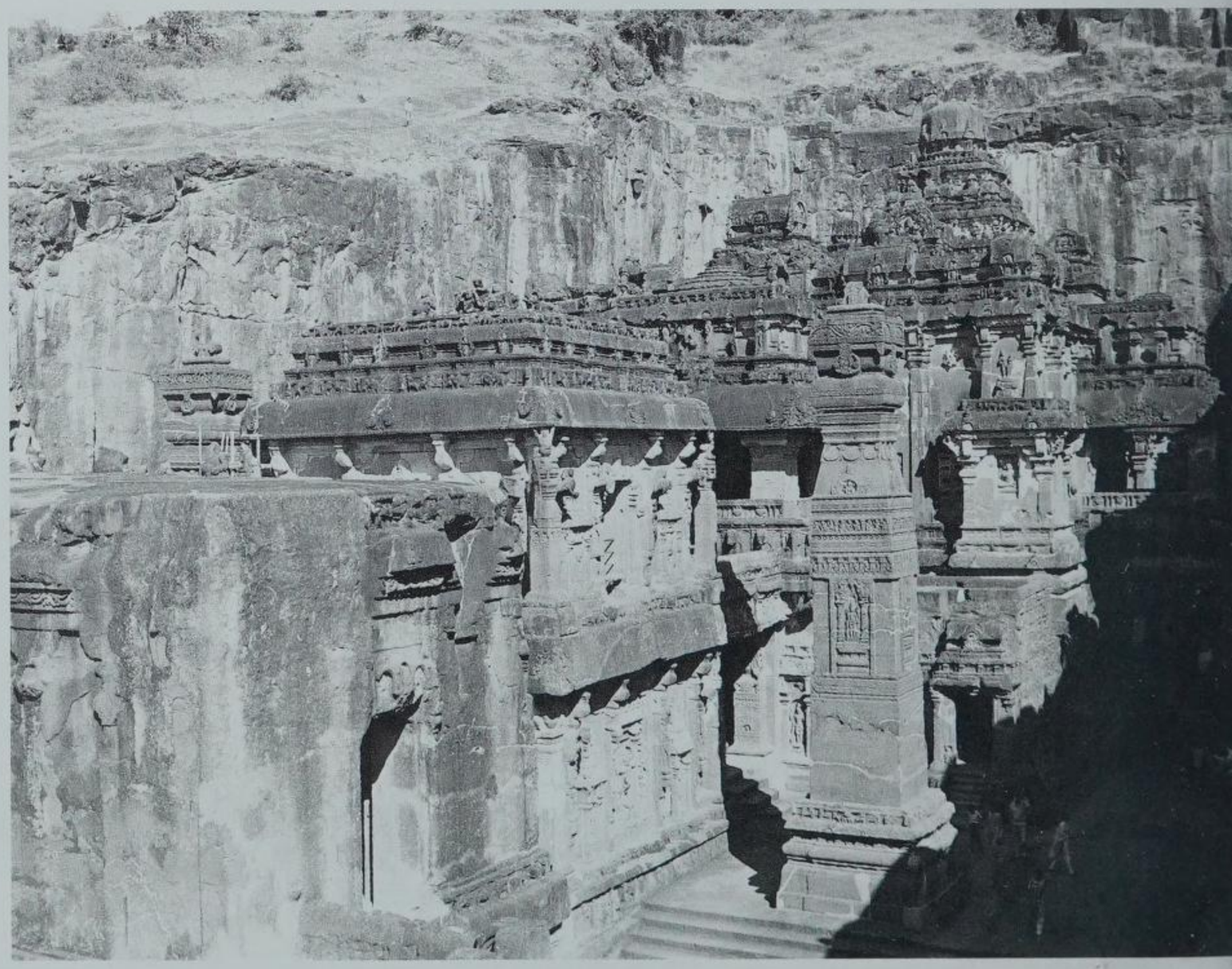
101. Ellora, Kailasa Temple:
(a; previous page) plan (1:500) of upper level with Lankeshvara *lenya* of main shrine hall; **(b)** section; **(c)** from west; **(d)** from east; **(e)** forecourt with *stambha*.



101 (b)

the 'Dashavatara' where his activity is recorded in an inscription. Next to that work is the great rock-cut, free-standing Kailasa temple usually attributed to Krishna I (757–775) which bears some resemblance to the Virupaksha at Pattadakal, and through it to the great works of Kanchi.

Like southern temples, the Kailasa is a walled complex with a *gopura* and as at the Virupaksha the principal axis leads through the forecourt, with the Nandi-pavilion here flanked by ceremonial pillars, to a 'nine-square' hall with porch and balconies and a vestibule leading to the *garbha-griha*. As in the Kanchi Kailasanatha the *garbha-griha* is surrounded by subsidiary shrines on the great platform – five rather than nine, free-standing beyond an open ambulatory as they would have been in the multi-storey *vihara* prototype of the Dravidian *vimana*. The subsidiary shrines are themselves miniature three-storey square or rectangular *vimanas*, architectonic in articulation – variations on the theme stated in the *'Rathas'* of Mahabalipuram. The four-storey central *vimana* with statues of Nandi on the top platform has an octagonal 'cupola' like those of Kanchi but a pediment like those of Pattadakal. The *padma-kumbha* pilasters are familiar from the south, the pillars conform to the major types encountered at Pattadakal including richly incised blocks, square in section, the *purna-kalasha* and the *kumbha* with graduated rings like that of the Virupaksha Nandi pavilion. The base mouldings, superimposed over the tremendous elephants of the platform, follow those of the Virupaksha. Subsidiary halls and shrines, connected by a colonnade bordering much of the precinct, are excavated



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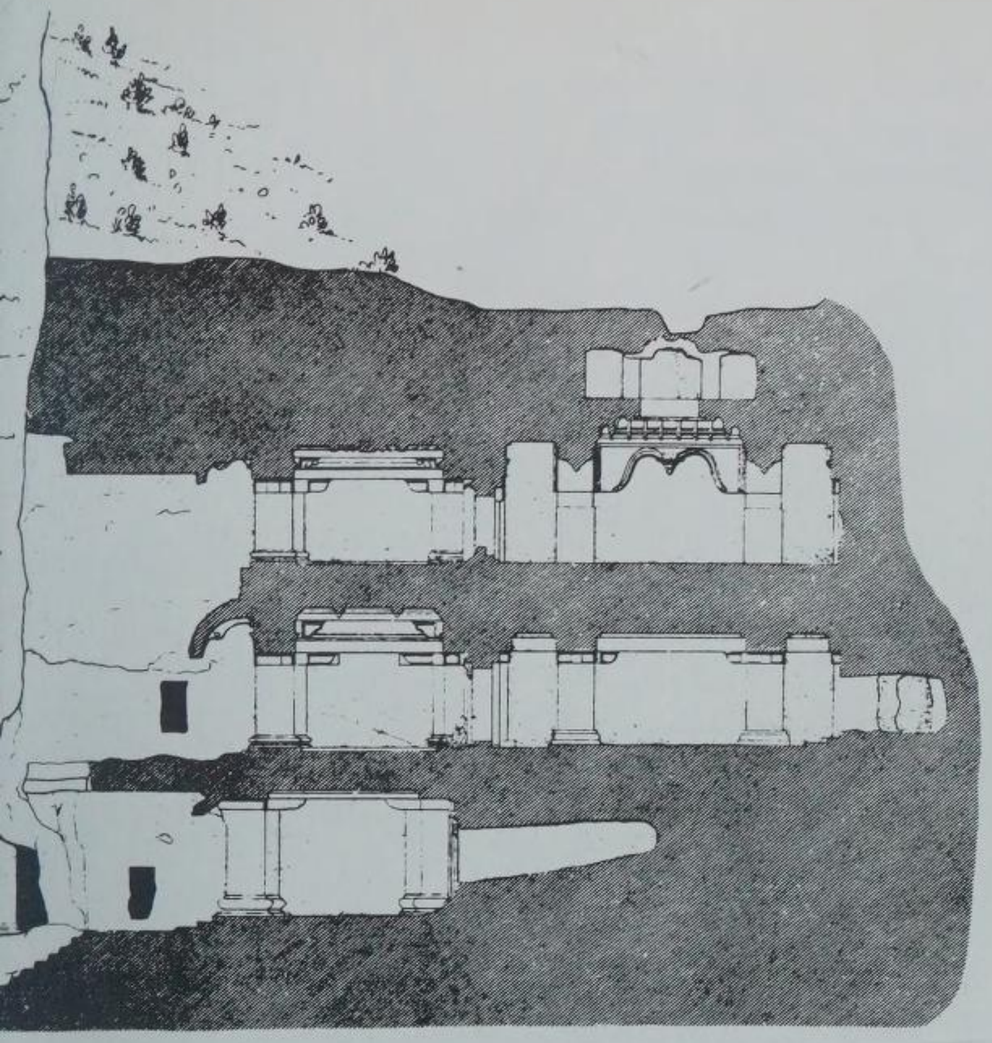

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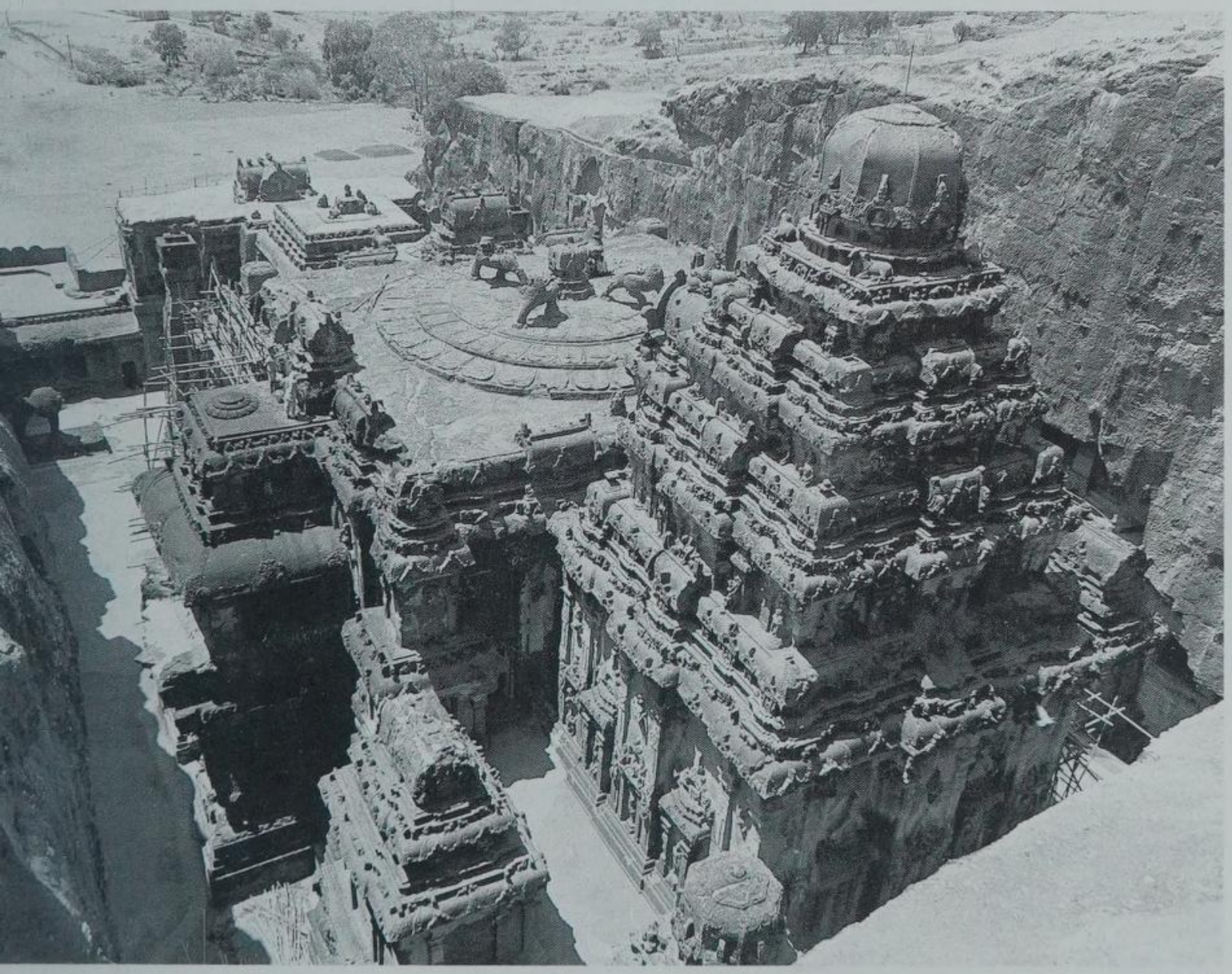


101 (d)

from the rock walls: the Lankeshvara to the north, with a great 'nine-square' hall before its *garbha-griha* and ambulatory, is actually an amplification of the Kailasa's principal elements.

The whole gigantic Kailasa enterprise is the culmination of all the main strands of early Hindu architecture delineated by the Chalukyas and Pallavas. It was never to be emulated, though others were certainly inspired by it. Soon after, for instance, the Pandyas in the Vettuvankovil at Kalugumalai and the Jainas in their first work at Ellora, the so-called 'Chhota Kailasa', attempted creditable if much reduced models. The Jainas at Ellora also incorporated a three-storey, four-faced *vimana* in the forecourt of the exquisite 'Indra Sabha' which, though much smaller and more decidedly axial, effectively recalls the Kailasa's combination of monumental three-dimensional mass with rich excavated volume.

8

The Cholas and their Contemporaries in the South

It is hardly surprising that the Chola school, which took the southern tradition to its apogee, seems first to appear in early maturity. Chola architects were heir not only to the past lavish brick and sandstone tradition of the Pallava, sustained in Pandya domains, but to the more recent mastery of granite by the Pandyas and their sometime clients the Muttaraiyars, Irukkuvels and Gangas. These powers had continued with excavation – doubtless along with structural work in ephemeral materials – throughout the 8th century.

102

103

They began to apply their experience to building with hard stone only at the beginning of the 9th century – after the Pandyas had undertaken, but not completed, their sumptuous monolithic Vettuvankovil at Kalugumalai. The material first dictated relatively small, restrained exercises consisting essentially of *vimana* and an undivided hall in a compound with *gopura*. Aedicules are usually too slight for sculpture and fine relief elsewhere is subordinate to an architectonic conception which preferred primary geometric forms. The *padma-kumbha* type of pilaster, often now with the Pallavan *kalasha*-shaped neck, is logically disposed to stress corners over the early architectonic form of socle. Gorgeous *kirttimukha* gables are a feature of the Vettuvankovil but most early Pandya and contemporary works carry later heavy stucco embellishment to their superstructures.

Mastery over the material led to greater ambition and with increasing size went some elaboration, emulating late Pallavan practice in softer materials sometimes at the expense of geometry – but not of order. Moreover in response to the elaboration of devotional theism by the great Tamil Shaivite hymnists, the rational architects of these schools initiated the canonical disposition of the major icons in the temple's main niches and standardized the arrangement of shrines for subsidiary deities. Provision was now made for the evacuation of the libation fluids through a gargoyle-like spout projecting from the centre of the north side of Shaivite *vimanas*.[28]

Representative of the culmination of early Pandya and Muttaraiya work respectively, the two-storey Talinatha at Tiruppattur and the eight-shrine, three-storey Vijayalaya-cholishvara at Narttamalai are masterpieces of the early hard stone geometrical style. The latter is particularly notable with its circular *garbha-griha* rising from a crisply articulated, austere square enclosure, leaving the ambulatory exposed, through square and circular upper storeys to a circular 'cupola'. Their bases are derived from early Pallava works like the Arjuna Ratha with plinth, faceted *kumuda*, recession and floor slab. The pilasters stressing the projections are of the simplest, square in section.[29]

The Muvarkovil at Kodumbalur, with which the limited Irrukuvel tradition makes its impressive opening, was particularly ambitious, with triple three-storey shrines – of which only two survive – aligned north/south, served by a single large pavilion and surrounded by sixteen subsidiary shrines in a walled compound with *gopura*. The tendency towards elaboration is marked by a base incorporating a generous and elegantly curved *padma* above the plinth, as in the Pallava work at Panamalai, minor *padma* mouldings above and below the *kumuda* and *vyalas* to the floor slab. The finial rises from a bold *padma* disciplined by the square 'cupola' whose edges are richly incised in representation of the metal mantles which once protected the prototypes in less durable materials. The pilasters are square in section with *kalasha* and stylized foliage in low relief.

102. Narttamalai, Vijayalayacholishvara Temple from north-west.

103. Kodumbalur, Muvarkovil Temple: central and southern shrines from south-west.

10(b) Modest in scale and simple in plan, the early Chola temple also usually consists of regular, logically articulated forms: a rectangular flat-roofed hall, now generally aisled, from which the square *vimana* is increasingly effectively distinguished in mass. As in all the early southern traditions the *vimana*, though often of only one storey, dominated a complex enclosed by a high wall entered through a *gopura* whose brick upper storeys now rarely survive in their original form. Schemes with eight subsidiary shrines are not uncommon but as in the Kailasanatha at Kanchi, for example, the main subsidiary element of the more important Chola complexes was a free-standing pavilion for music and dancing or recitation; but few of these survive. Like their predecessors, Chola *garbha-grihas* contain only the cult object. Hall walls are more decisively varied in plane than Pallava works with deeper niches and recessions arranged in determined rhythm. Sculpture is naturalistic. Any clutter of surface relief is avoided and aiming at precision and clarity Chola architects relied for articulation on consistently applied pilasters, piers and (later) attached columns to bind the distinct masses of the main building together.

They still took carpentry as the starting point for their architectural detail, conventionalizing originally structural features as ornament, but their many surviving works reveal no clear steps in the process. The *padma-kumbha* Order follows the festooned Pallavan permutation, but square, round or polygonal shafts become common. Finely chiselled *kalasha*-shaped necks are a particular feature of Chola columns and their expansive *padma* abacus is often given distinct, sensuously curved petals. Brackets sometimes retain Pallava wave or rib mouldings, often they are simply chamfered. Figures or heraldic beasts sometimes rise from the abacus as struts but the anti-architectonic *vyala* base of the later Pallavas was early eliminated. On the other hand, to the architectonic socle of the early Pallavas, favoured by the Pandyas, the Cholas preferred more symbolically elaborated *padma* types descended from the Shore Temple. The tendency to add figures or beasts where they may logically be supported – as on an abacus – is carried over into the superstructure which now has more sculpture than heretofore and more subtly varied forms for its miniature cells. The 'cupola' may be circular or square, as with the Pandyas and Muttarayas, rarely octagonal like the Pallavan, and it is invariably waisted, crowned with a *padma* and incised along the edges. Usually built of brick and often replaced or renovated later, these became markedly more elaborate than formerly, furthering in particular the late Pallava tendency to give dormers florid, fan-like profiles.

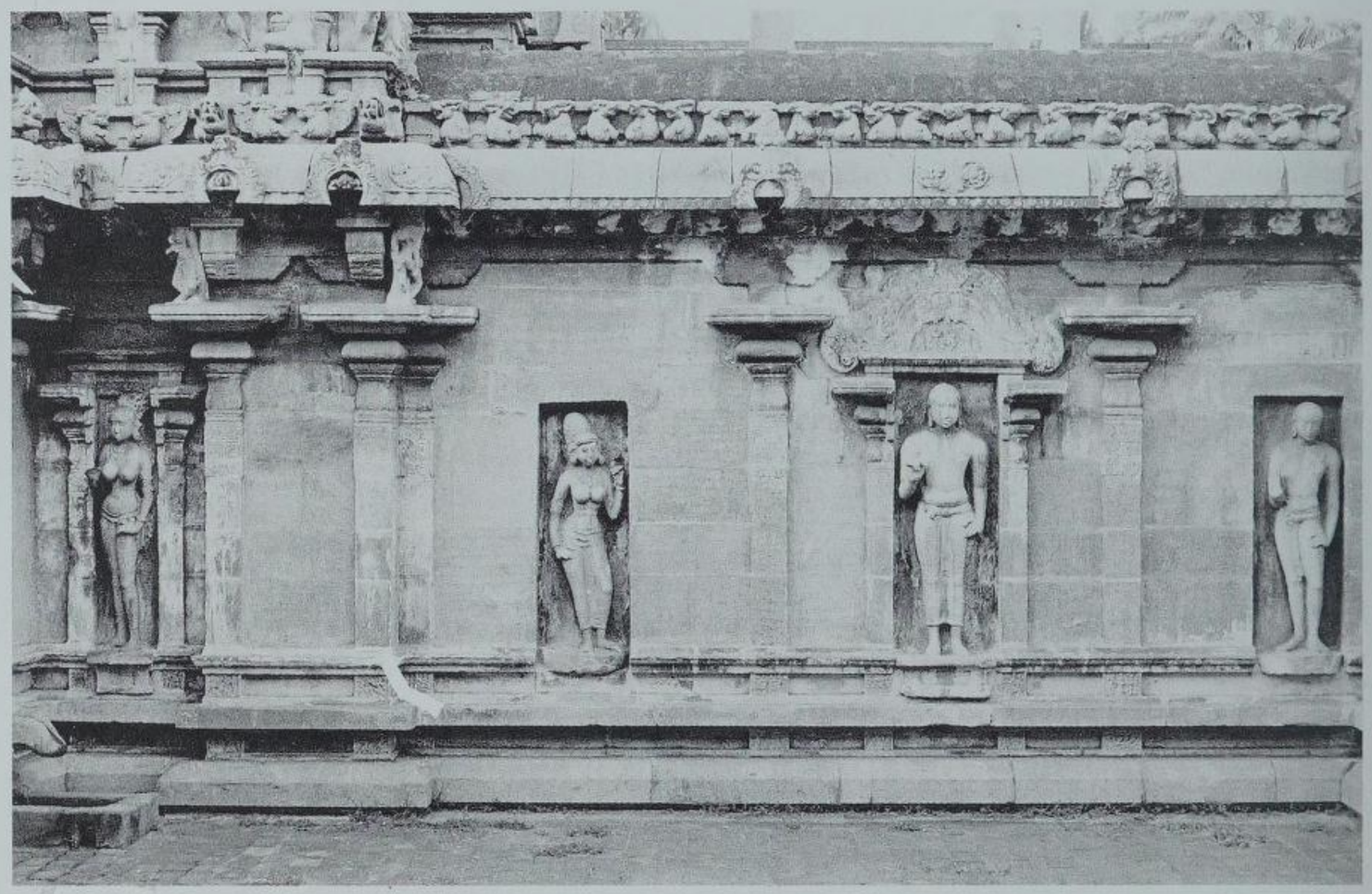
Though no clear line of development is discernible before the accession of Parantaka I (907–49) several works from about the beginning of his reign mark important developments, most notably the Nageshvarashvami at Kumbakonam and the Brahmapurishvara at Pullamangai show an increasing interest at once in greater sumptuousness and the distinction of *vimana* and hall. At the same time mastery of sculpture was accompanied by the definition of two- or six-figure alternative iconographical programmes for the hall niches. This phase is well represented by the Gomukteshvara at Tiruvaduturai. The adjacent Agastishvara and Cholishvara at Kilaiyur boast one of the area's oldest surviving detached pavilions in a compound whose three-storey *gopura* reaches beyond the height of the circular Cholishvara *vimana* almost to that of the Agastishvara. After Parantaka I, development was temporarily interrupted by two or three decades of dynastic reverse but with the reconsolidation of Chola power under Uttama Chola (969–985) and its expansion under Rajaraja I (985–1014) the resources were available for splendid achievement like that of the Achaleshvara of Tiruvarur under the patronage of the queen dowager Sembiyan Mahadevi.[30]

The Nageshvarashvami at Kumbakonam and the Brahmapurishvara at Pullamangai, have vigorously articulated perimeters with stressed corners and central *vimana* bays boldly projecting in triads. Unsurpassed early Chola masterpieces, deeply touching in their naturalism, fill their *ghana-dvaras* and their superstructures are marked by increasing proliferation of sculpture. At Kumbakonam there are shallow niches in the *vimana* recessions and the hall walls are relieved only by *torana*-framed central niches and unframed side ones within a triad of bays defined by pilasters. The introduction of subsidiary niches to the hall walls anticipates the development of a six-deity programme. At Pullamangai the central bays of the hall reflect those of the *vimana*, though less bold in projection, and all recesses contain forceful aedicules which even interrupt the base. 93(d),(f) 10(c)

The socle at Kumbakonam is of the early Pallavan architectonic type but with a generous *padma* in place of the lower plinth slab. At Pullamangai the main base has a minor *padma* moulding and a *kapota*, like that of the Dharmaraja 'Ratha' at Mahabalipuram, in addition to a floor slab with *vyalas*, a *kumuda* and a recessed frieze but the lower base beneath the aedicules in the main recessions is comparable to that which the Irrukuvel architects of Kodumbelur derived from Panamalai. At Kumbakonam pilasters are used for the articulation of the masses throughout but at Pullamangai there are attached columns with a variety of square, circular and polygonal shafts and petals are occasionally delineated in the *padma* of the capitals.

The development of richer and more elaborate massing and the clarification of the iconographic programme, which were to characterize the works of Parantaka's successors, were anticipated in the Gomukteshvara at Tiruvaduturai. Here the three principal deities of the *vimana ghana-dvaras* are joined by six subsidiary ones on the hall. The attached columns are octagonal in section, with richly moulded *kalasha* neck and dish-shaped *padma*. A recession with screened

windows between the hall and *vimana* suggests a vestibule, though in fact there is no distinction of the space inside. This work also marks the appearance of one of the most important Chola permutations of the old Pallava architectonic socle with minor *padma* mouldings separating the two plinths, the *kumuda*, the recessed frieze and the floor slabs. The three-storey Achaleshvara at Tiruvar was one of Queen Sembiyan Mahadevi's main foundations but like it, most of the other



104 (a)

104 (b)

104. Kumbakonam, Nagashvarashvami Temple: **(a)** *vimana*; **(b)** hall wall detail.

105. Pullamangai, Brahmapurishvara Temple from north-west.

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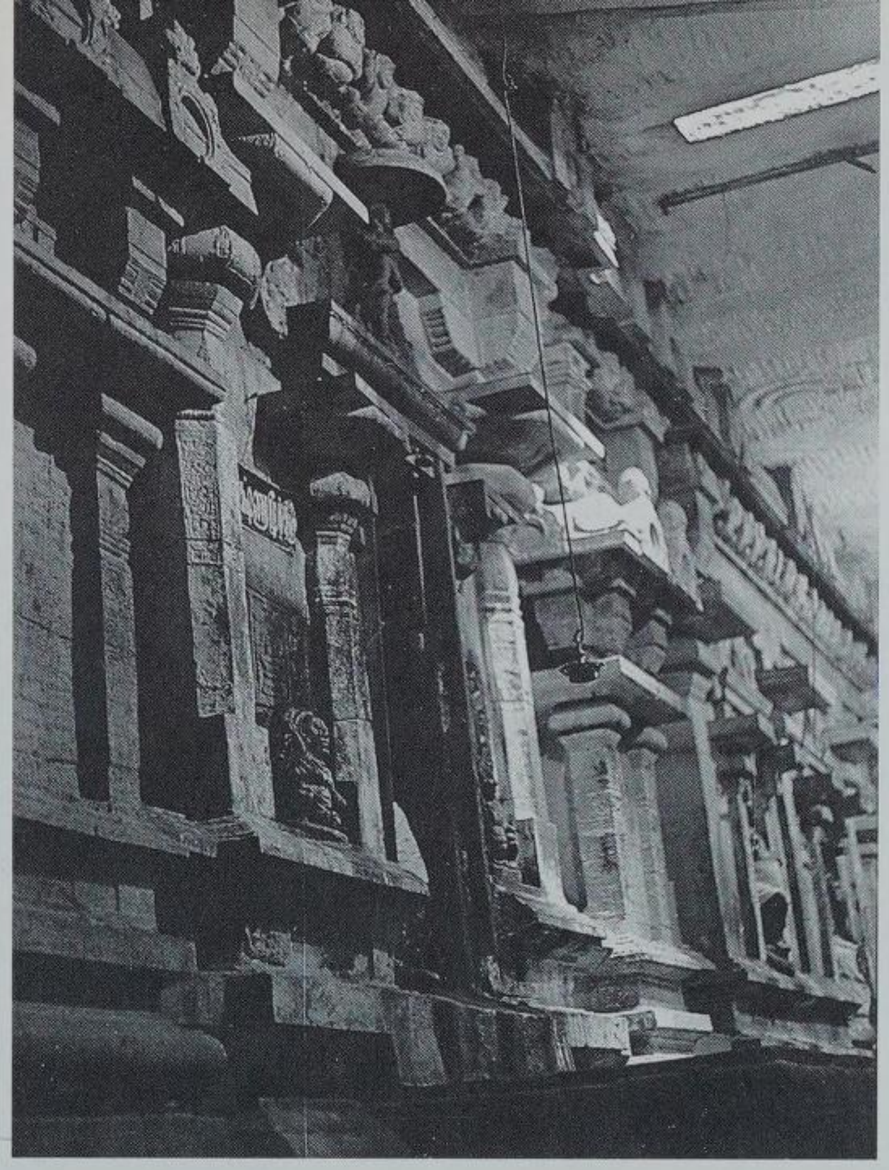
106. Tiruvaduturai, Gomukteshvara Temple: *vimana* detail.

107. Tiruvarur, Thyagarajashvami Temple: Achaleshvara shrine: from south.

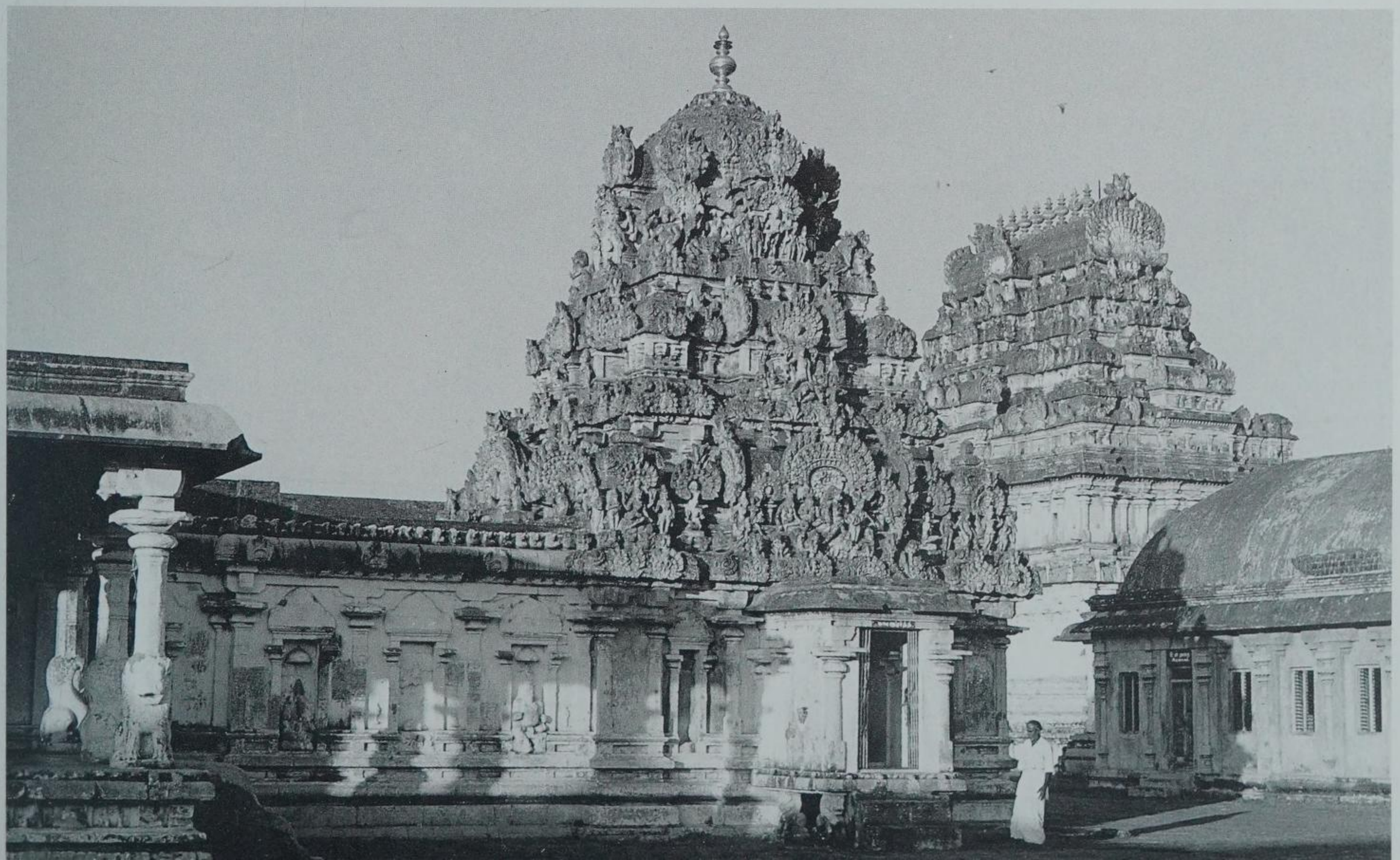


106

works associated with her retain the high and elaborate forms of the Gomukteshvara's socle. They also sustain the rhythm of Pullamangai's rich articulation though often with extra image niches set into the recessions in place of projecting blind aedicules. They also point to a more hieratic, less naturalistic, approach to sculpture.[31]

Though temple building continued on the provincial level at a not inconsiderable rate, the last decade of the reign of Rajaraja I is dominated by the construction of the great Brihadeshvara or Rajarajeshvara in the imperial capital, Tanjavur, and much of the resources even of Rajaraja's extensive domains must have been absorbed by the mammoth exercise of amplifying the standard components of the Chola complex to stupefying proportions. The reign of Rajendra I (1014–44) was also one of active temple building and rebuilding throughout the expanding empire but it too was dominated by one great work. Begun in emulation of the Tanjavur Rajarajeshvara, this dominates the new capital of Gangaikondacholapuram founded by Rajendra probably in the second decade of his reign, about the time of the successful campaign which took him to the Ganges.[32]

Of the Rajarajeshvara's two main enclosures, the outer is surrounded by a moat and later defence works integrated



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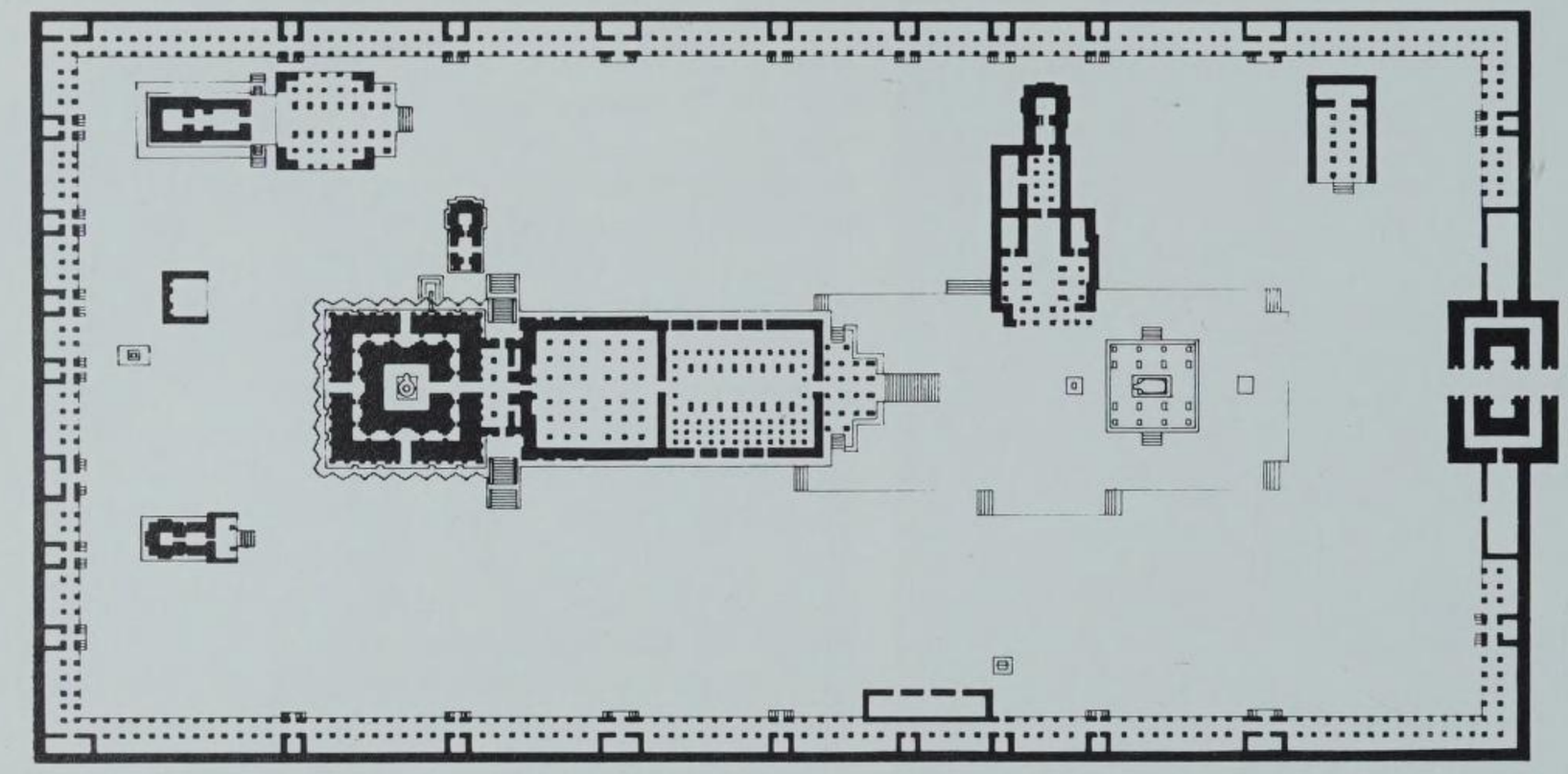
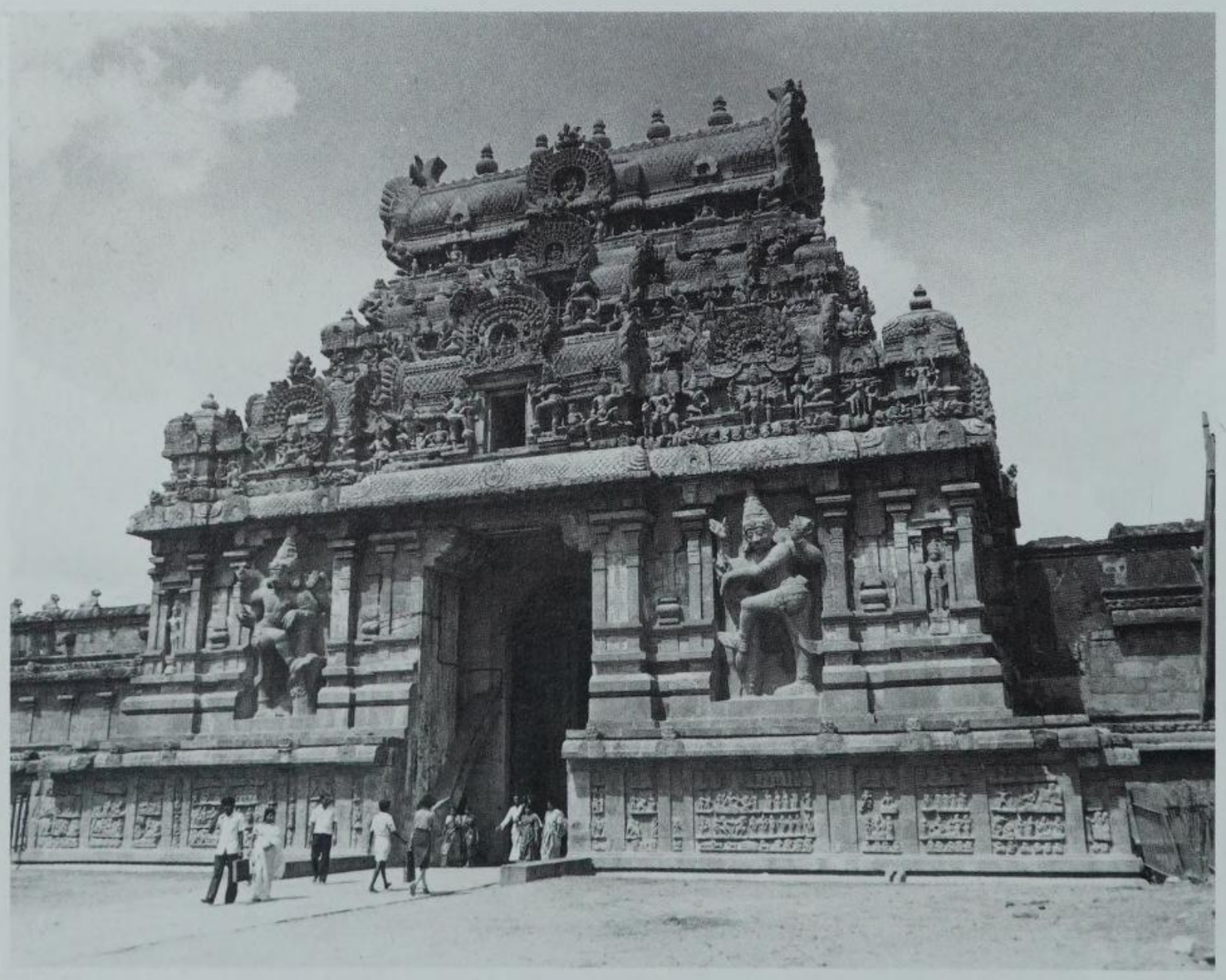


108 (a)

108 (b)

with the magnificent five-storey outer *gopura* which provides a landmark in the monumental transformation of the simple *shala* type of portal, first encountered at Mahabalipuram, in terms of the oblong form of multi-storey *vimana*.The three-storey inner *gopura* on the same axis provides access to the main temple precinct through the main enclosure wall and subsidiary gates to the north, south and west are aligned with the centre of the *garbha-griha*. Around the inner face of the enclosure multiple subsidiary shrines are sheltered by superimposed colonnades.

108. Tanjavur, RajarajeshvaraTemple: **(a)** plan (1:1000) of main enclosure with Subrahmanya shrine north-west of main *vimana;* **(b)** outer enclosure and *gopura* from south-east; **(c)** inner *gopura* from east; **(d)** main shrine; **(e)** *vimana* detail.



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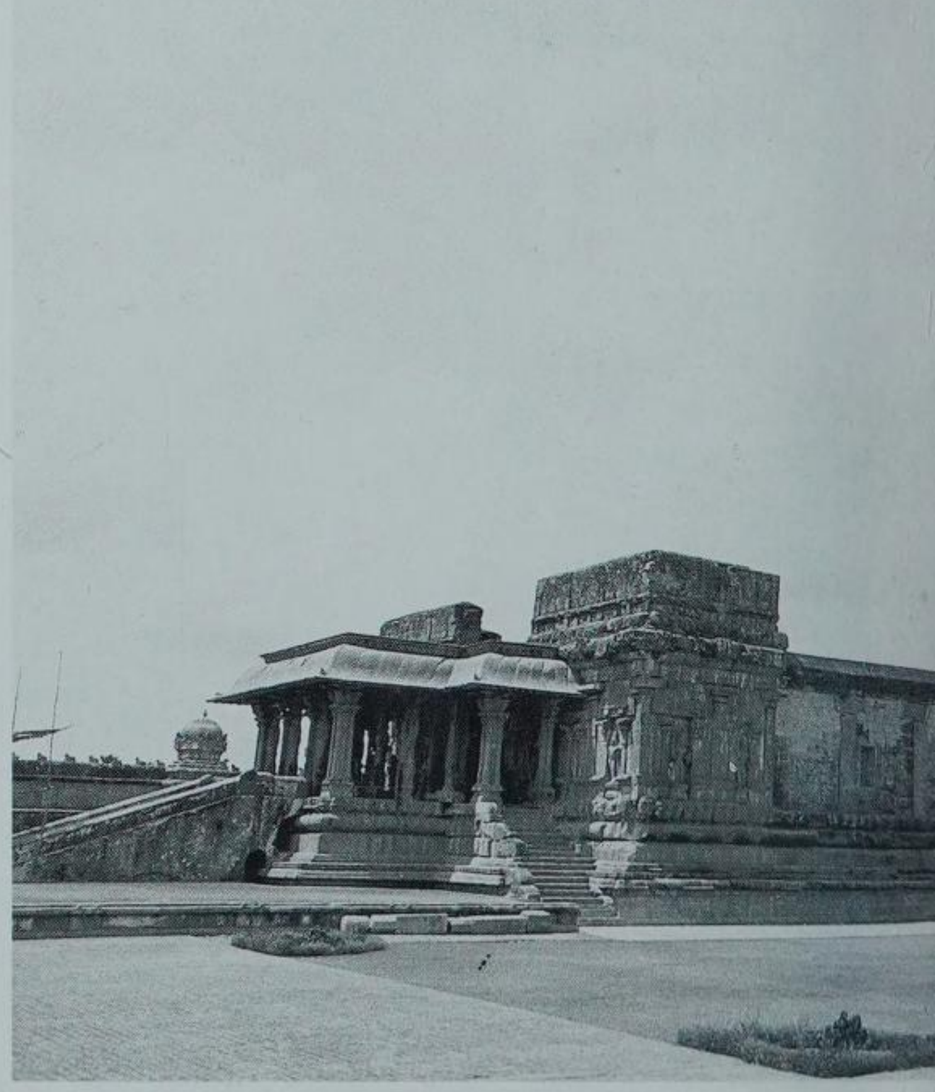

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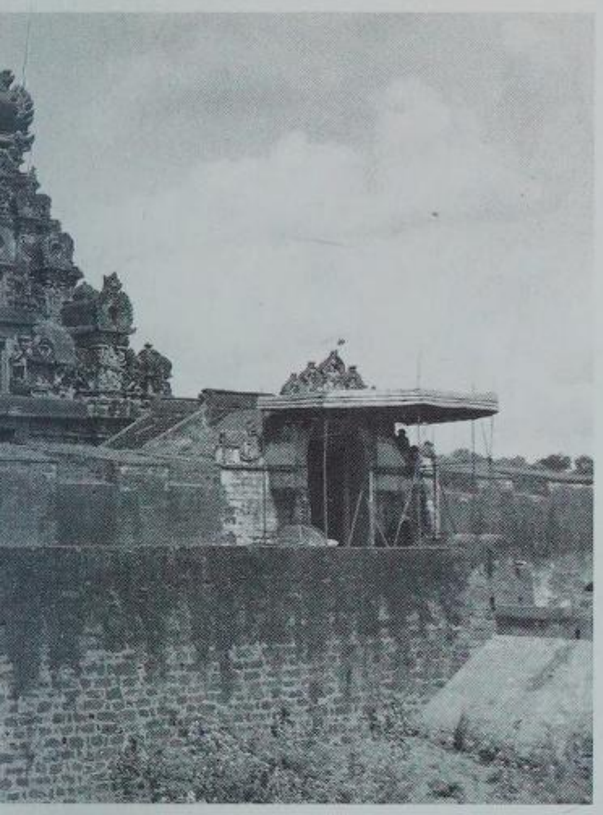


108 (e)

The majestic *vimana* rises as a hollow pyramid to over 63 metres through sixteen storeys and the whole is crowned by a monolithic circular 'cupola' – the method of raising this huge weight to a height then unprecedented is the subject of continuing speculation. The intermediate storeys – the first four extending over the vestibule – bear various miniature shrines of a scale which provides relief without denying homogeneity. The *vimana* encloses circumambulatory passages, unlike most early Chola works but like the greatest works of the Pallavas which provided the obvious precedents for imperial pretension.

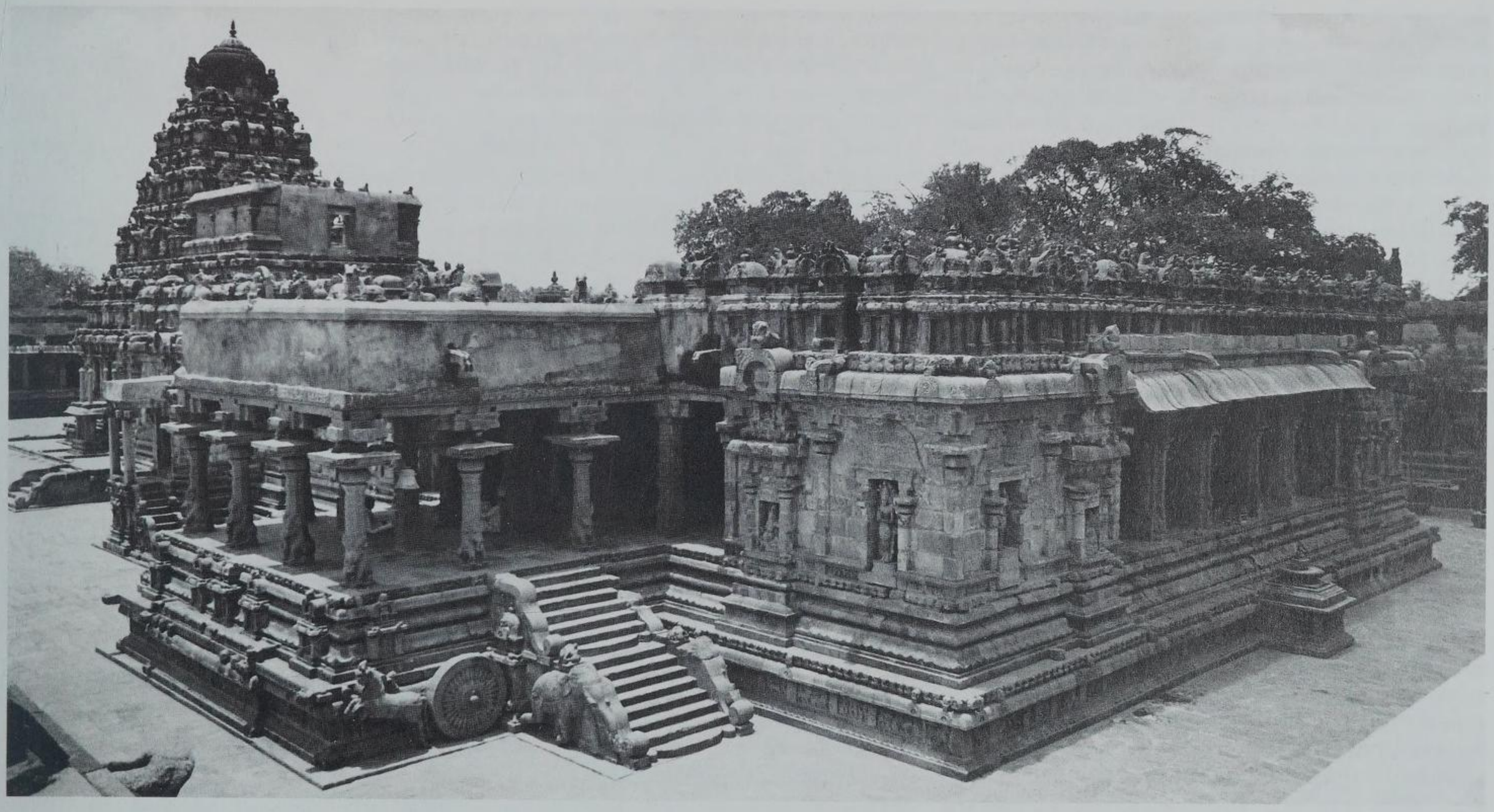
Expressing the superimposition of these ambulatories around the immense *linga*, the first floor is divided into two registers separated by a full entablature. On each side four bays, representing the base plane of the wall, are relieved with a new motif (*kumbhapanjara*): a pilaster with *kumbha* base like the old Mauryan Order, bearing a shrine motif. These alternate with six projecting bays containing the aedicules for major icons. The pilasters framing these bays are still of the *padma-kumbha* type, but the corbel brackets above, not ribbed in the earlier manner, have a triangular tenon projecting from the centre of the canted corner. The central pair of projecting bays are linked into a triad by the continuation of the entablature over the great voids which light the hieratic icons in *ghana-dvaras* set into the magnificently painted ambulatory walls. The vestibule, similarly articulated but with entrances to its sides as well as on axis with the *garbha-griha*, forms an intermediate element between the *vimana* and the imposing closed hall, once of three storeys with later portico and detached Nandi-pavilion. All the contiguous elements share a common socle and platform: the latter, projecting beyond the former, is vigorously indented throughout below a *kapota* and frieze; the former is of the most elaborate Tiruvaduturai type, combining two recessed friezes, the lower one with *vyalas*, *kumuda* and minor *padmas*.

Vast like its model but with one enclosure, the main parts of Rajendra I's Gangaikondacholishvara – *vimana* with ambulatory, vestibule and hall – are contiguous and share a common base. The platform, decorated with panels alternately bearing low relief floral ornament and mythical beasts in high relief, is richer than at Tanjavur and the socle follows Pullamangai with a major *padma* above the plinth. The articulation of the *vimana*'s ground floor and vestibule, too, is closely modelled on that of Tanjavur though the *ghana-dvaras* are brought out to fill the central bays, flanked by relief panels, and the recessed bays have aedicules in the upper register. The *vimana* rises through 50 metres to nine storeys but is larger at base than the one at Tanjavur and gracefully incurved in profile. Large shrine motifs crown the grouped central bays of the first floor at Tanjavur but here the upper storeys break forward at the intermediate miniature shrines, the central ones projecting further still in response to the greater weight of the frontispieces below, and octagonal forms are used at the corners. All this contributes greater variety of relief and counteracts the striated effect produced by the repeated unbroken *kapotas* at Tanjavur. The junction of the *vimana* and vestibule is more accomplished too.

The experiments with massing and iconography begun under Parantaka I and leading to the achievement under Queen Sembiyan Mahadevi of distinct *vimana* and hall enriched through variation in wall plane but unified through consistent articulation, culminated in the great temples of Rajaraja I and Rajendra I and many works were inspired by them. The Airavateshvara at Darasuram and the Kampahareshvara at Tribhuvanam well demonstrate the endurance of the tradition into the later-12th century.

The scale of the *vimanas* was reduced to five at Darasuram, seven at Tribhuvanam. The latter has a double enclosure, 11
with *gopuras*, the inner one cloistered, the outer one containing a splendid contemporary shrine for the *shakti* of the deity. The former has an entirely separate *shakti* enclosure. The quest for more vigorous relief, furthered by Rajendra I, leads at Darasuram to the use of black basalt for the superb icons, to the still more extensive deployment of engaged columns instead of pilasters, and to the introduction of curved and octagonal forms for the miniature cells of the parapets. Cells on the top platform, flanked by statues of Nandi, provide effective transition to the cupola. At

109. Gangaikondacholapuram, Brihadishvara Temple: *vimana*.



110 (a)

110 (b)

110 (c)

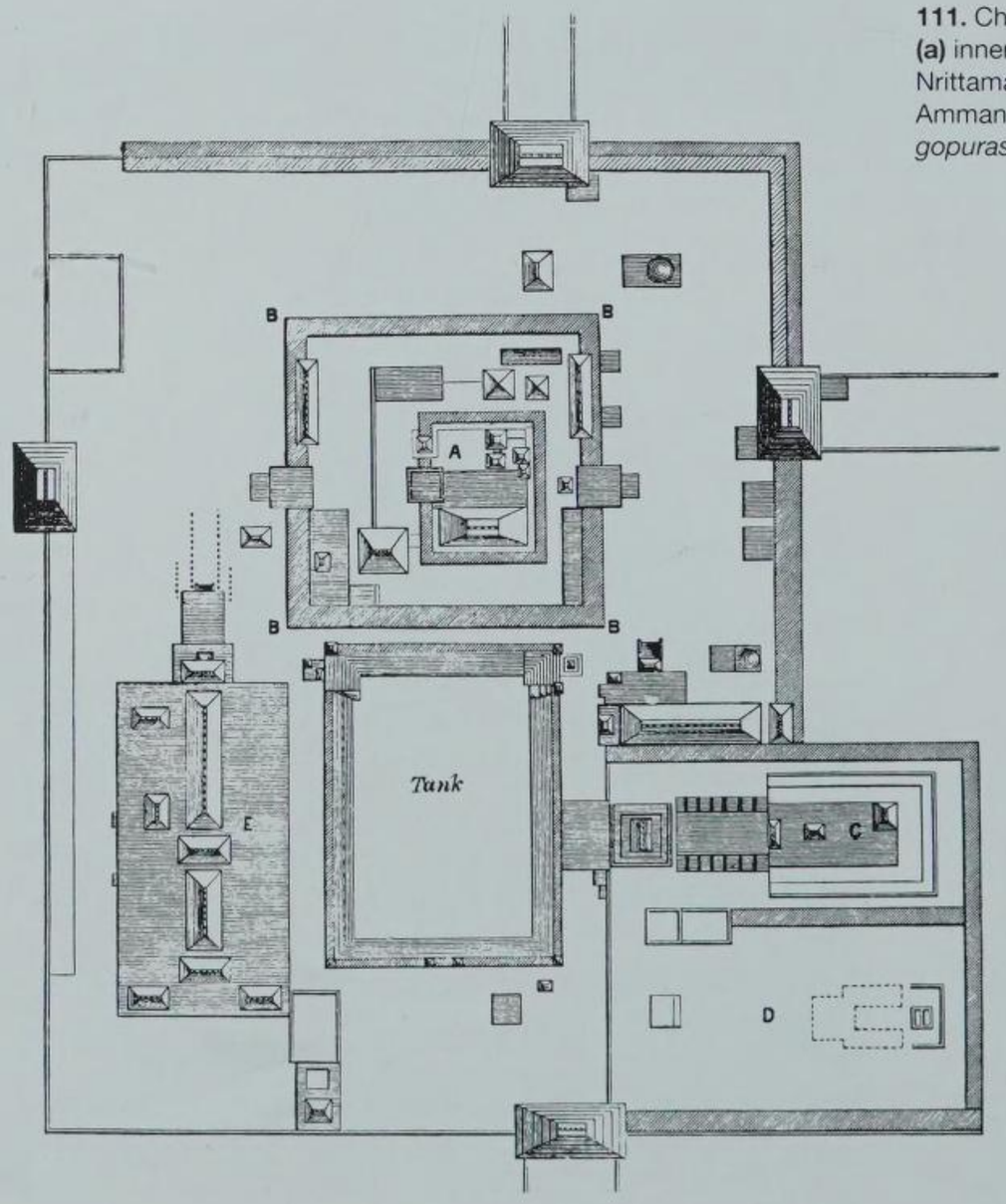
110. Darasuram, Airavateshvara Temple: **(a)** from south-east with 'Ratha' portico foreground; **(b)** *vimana*; **(c)** Amman shrine.

Tribhuvanam too, architectural elements still play a major part despite the exuberant pantheon of sculpture spilling forth from them. Socles follow the example of Gangaikondacholapuram but the ribbing of elements becomes fashionable and the platform is much more elaborate. Significant refinements in the design of the column, upon which the articulation is consistently based, include a *padma* profile to the bracket broken by a bell shaped tenon, a thinner abacus above a broader, scalloped *padma*, faceted shafts with varied blocks and, ironically, the re-adoption of the Pallava *vyala* base. Most startling, however, is the treatment of enlarged porticos as horse-drawn *rathas* – a concept first employed in the Natarajamandapams of Chidambaram and Kumbakonam and widely adopted in the coming centuries, not only in the south.[33]

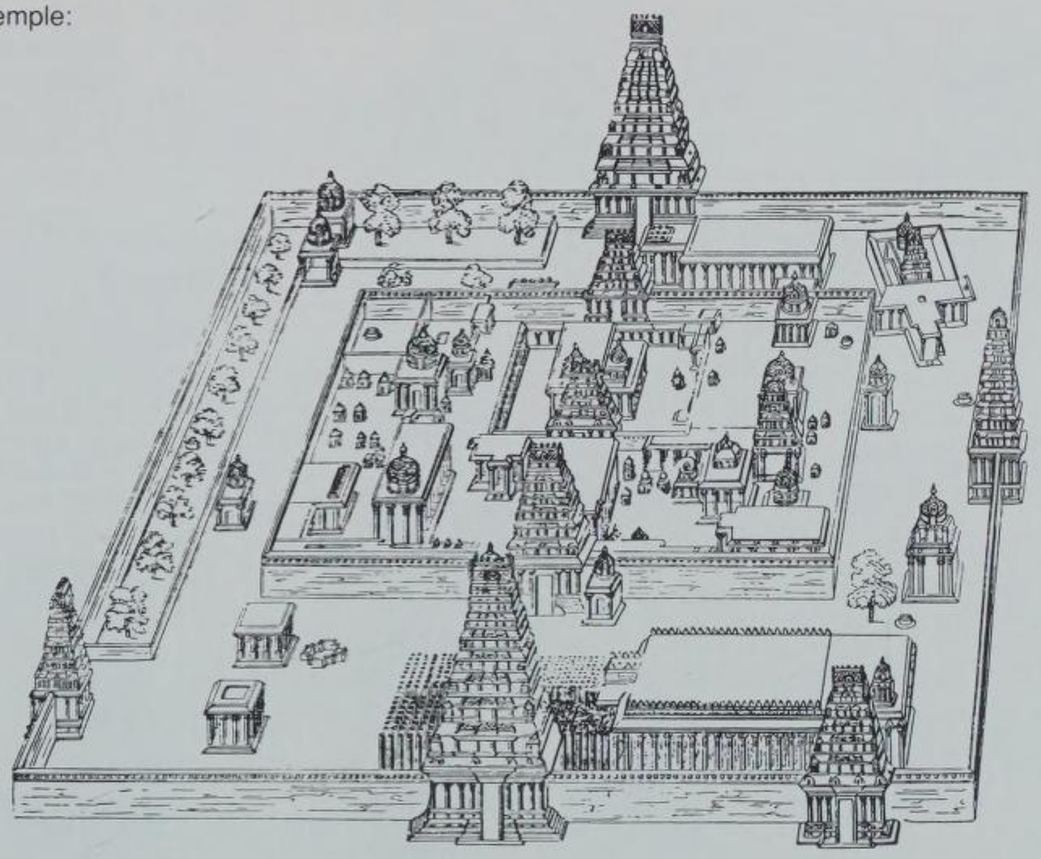
The addition and integration of hall and portico was to be an important concern but most significant was the development of the temple compound along the lines stated at Tanjavur, though the spirit of inventiveness which characterized Chola work from the start produced many variations on the theme. In addition to their new works, Queen Sambiyan Mahadevi and her followers commissioned the rebuilding in stone of many existing temples, often the foundations of the Pallavas and their contemporaries in brick and other less durable materials. Most of these, especially at the abodes of the dynasty's patron deities like Chidambaram and Tiruvarur, were to be the nuclei of compounds extended to provide for the temple's expanding role in the life of the community with facilities ranging from ablution tanks to teaching halls and, above all, to cater for developing cults like those of Shiva Nataraja and of Devi, the *shakti* of the deity. Nataraja was usually served in a distinct pavilion (*Natarajamandapa*). From about the middle of the 11th century, Devi was given a separate shrine as part of the original conception – as at Tribhuvanam and Darasuram – and one was added to existing temples over following centuries – as at Tanjavur. In Shaivite complexes the goddess's Tirukkamakottam or Amman shrine usually faced south beside the main temple with which it shared a pavilion. In Vaishnavite ones the *shakti* shrine (Tayarsannadhi) was given a totally separate identity. An important ramification of the Devi cult was the annual celebration of the marriage of the god and goddesses. For this a special pavilion (*kalyana mandapa*) was often added in front of the *vimana* to supplement the festival halls which catered for ministration to the deity such as ritual ablution and adornment before procession.

In the century or so after Rajendra I the pattern for expansion seems to have been set at Chidambaram where most of these facilities – including the separate Amman shrine – first appear. The venerable foundation at the site of Shiva's cosmic dance is mentioned in Pallava records but the two Shiva shrines which form its nucleus – the principal one dedicated to the Nataraja in commemoration of Chidambaram's extraordinary significance – are largely modern reconstructions. Of the four enclosures, the outer one is probably a post-Chola accretion but the third, which rings the sacred site, seems to have been achieved under Kulottunga III (1178–1218) and at least three of its four *gopuras* – west, east and south consecutively – were completed by the middle of the 13th century. Perhaps the most notable elements of the complex, these develop the example set at Tanjavur. The first two registers of their vertical walls are built of stone and though brick and plaster are used for the seven diminishing *prasada*-like terraces above, their *kutas* and *shalas* are lucidly expressed. Like the related work known as the 'Sundara Pandya' at the Jambukeshvara on Shrirangam island, indeed, at their best these great structures sustain the architectonic logic characteristic of the Chola school from the outset and even when the Shaivite pantheon is most fully elaborated in the latest work, the sculpture never actually eclipses the trabeated articulation – as it was ultimately to do.

The Thyagarajashvami Temple at Tiruvarur is a typical example of both rebuilding and expansion. As we have seen, Sembiyan Mahadevi rebuilt the main subsidiary shrine, the Achaleshvara. Rajendra I followed not only with the rebuilding of the Thyagaraja shrine, which, with the venerable



111. Chidambaram, Nataraja Temple, plan: **(a)** inner enclosure with principal shrine and Nrittamandapa; **(b)** second enclosure; **(c)** Amman shrine; **(d)** third enclosure with main *gopuras*; **(e)** 'Thousand-pillar' hall.



112. Tiruvarur, Thyagarajashvami Temple: overview.

Valmikinatha beside it, forms the nucleus of the complex, but with the provision of a main hall to serve both and a colonnaded enclosure with a three-storey *gopura* to the east on axis with the Valmikinatha. A second enclosure, embracing the Achaleshvara and three other subsidiary shrines, was constructed well before the end of the century, probably by Kulottunga I (1070–1122) who had enlarged the compound to the north for the Amman and along the main axis to include the extensive Rajanarayana Tirumandapam – one of the first of the great hypostyle halls which were soon to proliferate. A third enclosure with four *gopuras* and two more hypostyle halls was being worked on under Kulottunga III and beyond that two more enclosures sheltered temple servants and itinerants. This was the pattern followed till the 17th century and beyond in the development of the great temple 'cities' which are the principal glories of the South.

Post-Gupta Developments in the North

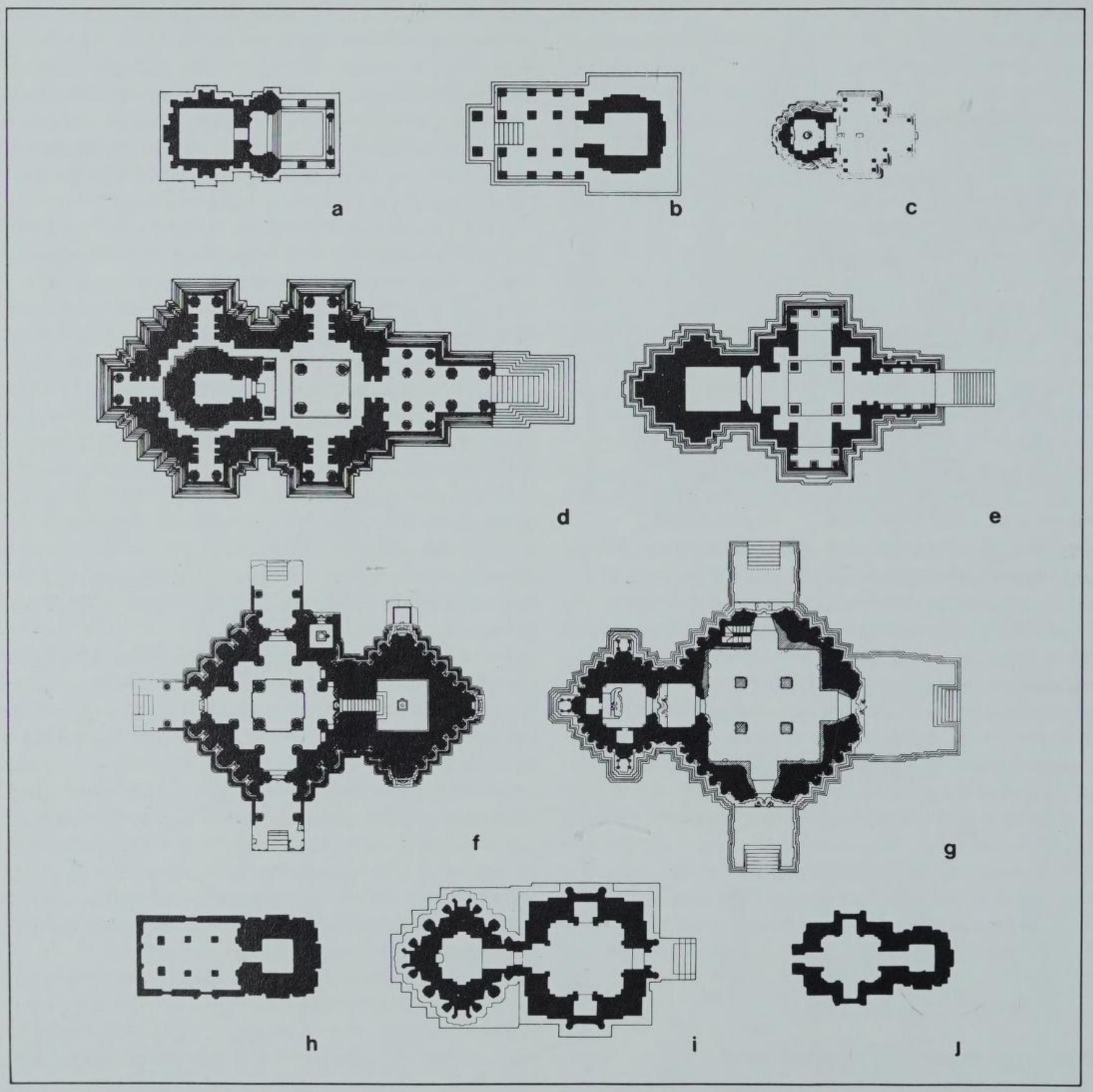
In the fertile ground inherited from the Guptas, the Pratiharas and their subordinates prepared the full flowering of the northern tradition. The paramount dynasty was at its most prosperous in the 8th and 9th centuries, at the turn of which its expansion from its Gurjara homeland culminated in the taking of the old imperial seat, Kanauj. During the 10th century the feudatories – colateral branches of the Pratihara dynasty itself and other Rajput clans such as the Solankis in the west, the Kachchhapaghathas and Chandellas in the north-centre, the Kalachuris in the east and the Paramaras in Malwa – were able to throw off the imperial yoke and achieve their own individual maturity. Kanauj and its legendary 'one-thousand temples' – both inspiration to, and product of, the Pratiharas no doubt – succumbed like the dynasty itself to the onslaught of invading Muslims in 1018. Many other works of the era were lost the same way or to later pillagers and the story of the development of the various schools of Hindu temple architecture in the North and West of India is consequently far from complete. Enough does survive, to demonstrate that the Pratihara period saw the emergence of all the elements of the mature northern temple.[34]

The two essential elements, aligned on an east-west axis and usually facing east, are the *mulaprasada* and portico but five-shrine complexes are not uncommon. By the end of the period there is often an ambulatory, usually a vestibule and an open or closed hall, nine-square or oblong-aisled, large enough for ritual dancing. *Mulaprasada* and matching hall walls are treated to a wide range of variations in plane needed to accommodate the pantheon, but five or seven bays are most common. Numerous horizontal divisions from the socle to the parapet relate to the structure and symbolism of the *tirtha* in the now familiar ways. A major development is to elevate the ubiquitous *khura-kumbha-kapota* form of socle to the position of a dado above an accumulation of symbolic mouldings and friezes: the necked *kalasha* replaces the *kumbha* whose bulbous form is given instead to the top of the *khura*. 113(a–c)

In addition to the increasingly generous portico, subsidiary porches or balconies often project from the other sides. These are all usually bordered by a low parapet (*vedika*, recalling the fence of the sacrificial enclosure) supporting a seat-like ledge with vertical or sloping back and a truncated order which bears deeply projecting eaves (*chadya*). Early pillars are usually square, sometimes with graded projections, but later elaboration superimposed square, octagonal, sixteen-sided and circular zones, often treated to richly varied relief, below a wide variety of capitals including permutations of the *purna-kalasha*. Corbelled arches, undulating or cusped, are thrown between columns especially at entrances.

Portals, particularly of *garbha-grihas*, usually have five or more bands, some architectural, some with the repertory of 'water-cosmology' motifs symbolic of fecundity and the regeneration of passage through the *tirtha*. Ganga and Yamuna, representing *shakti* flowing from its source in the holy mountains, occupy the lower jambs and are supported by *dvara-palas* providing protection at the most vulnerable point of entry and in the most critical moment of birth. The semi-circular cill is incised with the cosmic *padma* and flanked by the *kirttimukha* symbol of the dual passage of devotion into the realm of the transcendent, dark to man's comprehension, and of the transcendent from that dark to the light of salvation.

The northern *shikhara* may be essentially a single entity or it may be a cluster of spire-like forms. The former, called Latina, has miniature blind lunettes in tiers marked by *amalakas* on the corners and central bands (*lata*) of miniature



113

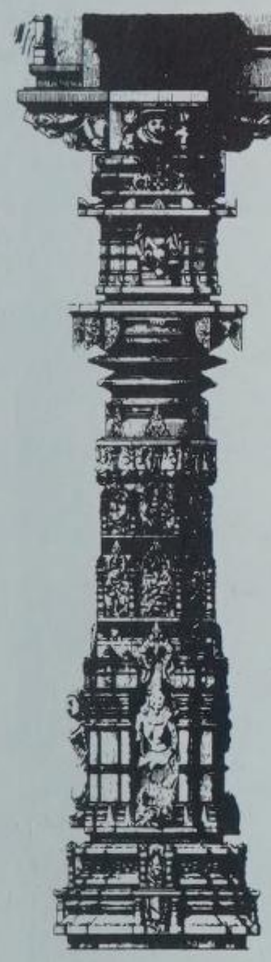
113. Temple plans III (1:500): **(a)** Baroli, Ghateshvara; **(b)** Osian, Surya I; **(c)** Sunak, Nilakantha; **(d)** Khajuraho, Khandariya; **(e)** Khajuraho, Devi-Jagadamba; **(f)** Ambarnath, Ambaranatha; **(g)** Lonar, Daitya Sudama; **(h)** Bhubaneshwar, Parashurameshvara; **(i)** Bhubaneshwar, Rajarani; **(j)** Bhubaneshwar, Mukteshvara.

114. Northern temple column and portal types: **(a)** Ambarnath, Ambaranatha; **(b)** Sinnar, Gondeshvara; **(c)** Modhera, Surya; **(d)** Balsane IV.

115. Northern temple symbolic mouldings: **(a)** Sunak, Nilakantha: socle and dado; **(b)** Ranakpur, Dharana-Vihara: door cill with *padma* and *kirttimukha*.

lunettes in a mesh-like pattern over the projections to the *mulaprasada* below. We have already encountered putative examples at Aihole, Sirpur and Bhubaneshwar and the form was to be taken to its ultimate stage of development in Orissa in the 11th century. The clustered variety is of two basic types: the Sekhari with one or more levels of graded miniature *shikharas* in the diagonals, half and quarter ones with niches above the central and intermediate projections to the *mulaprasada* walls; the Bhumija with distinct storeys of miniature *shikharas* or shrine forms interrupted above the central projections by strongly emphasized vertical bands (*lata*) of enmeshed lunettes. As at Sirpur, on all northern varieties a massive cap incorporates a single or double *amalaka*, a flattened bell-shaped element developed from the *padma* and a *kalasha* finial. Except in early Pratihara works, the pediment over the porch or vestibule is usually an elaborate *kirttimukha* composition with a major relief medallion. This, too, we have encountered at Sirpur and Pattadakal. Over halls, in place of the early flat roof the mature northern temple usually has subsidiary pyramidal *shikharas* of stepped slabs (*pidhas*), called 'Phamsana', or tiers of miniature bell-shaped lotus forms called 'Samvarana'.

71–74



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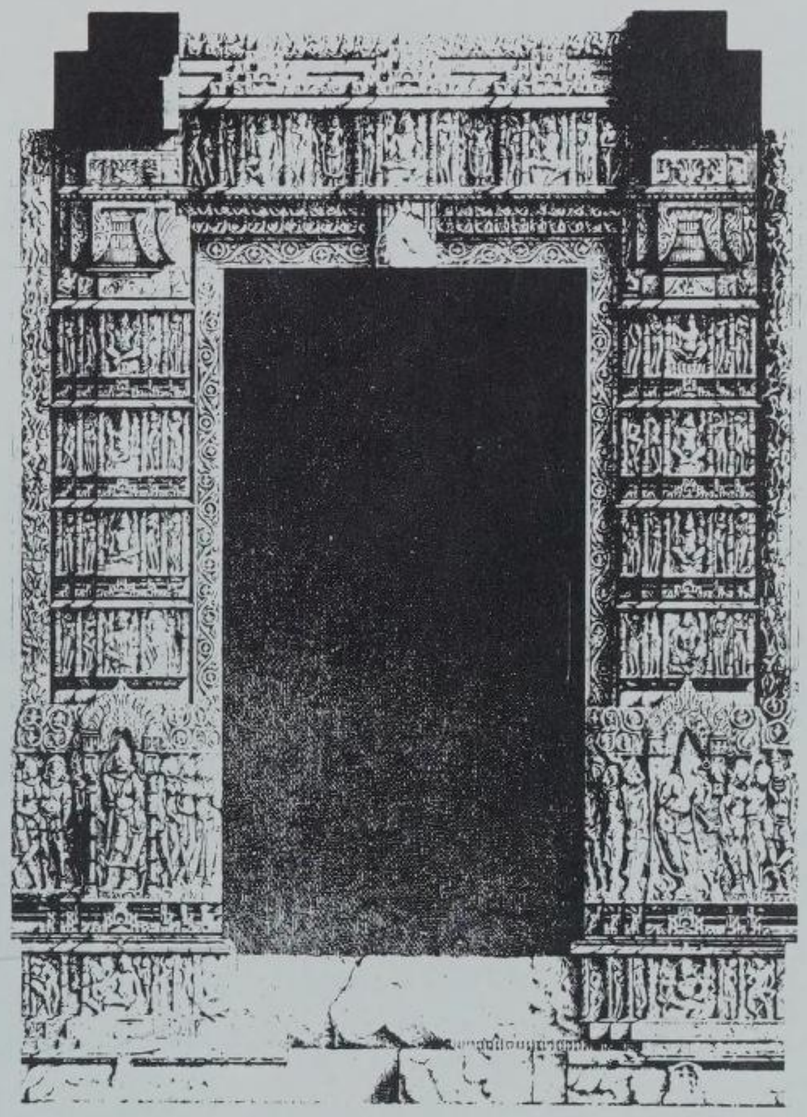

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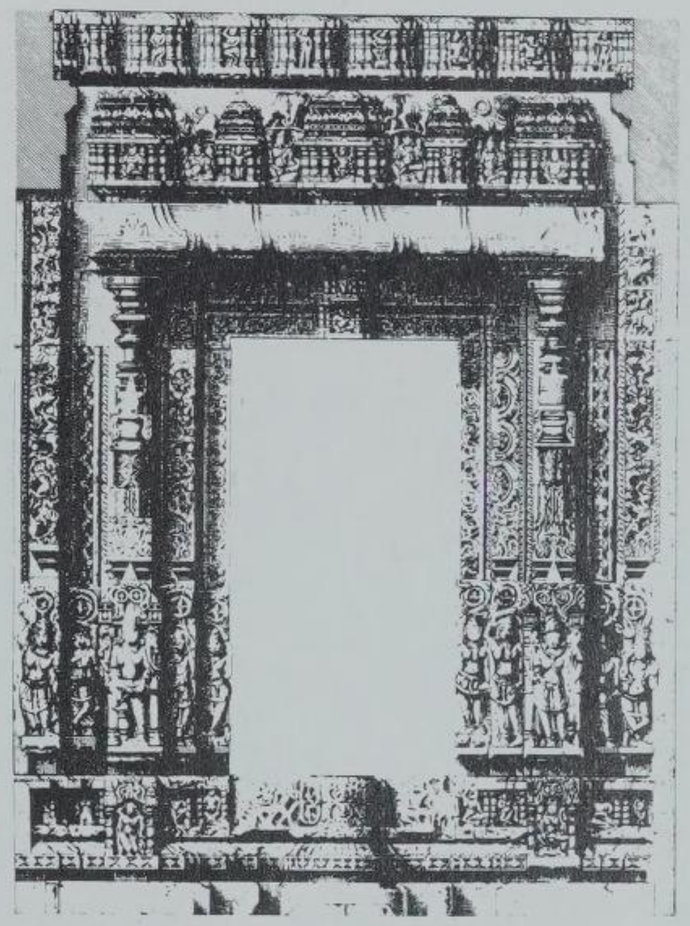

114 (d)

115 (a)

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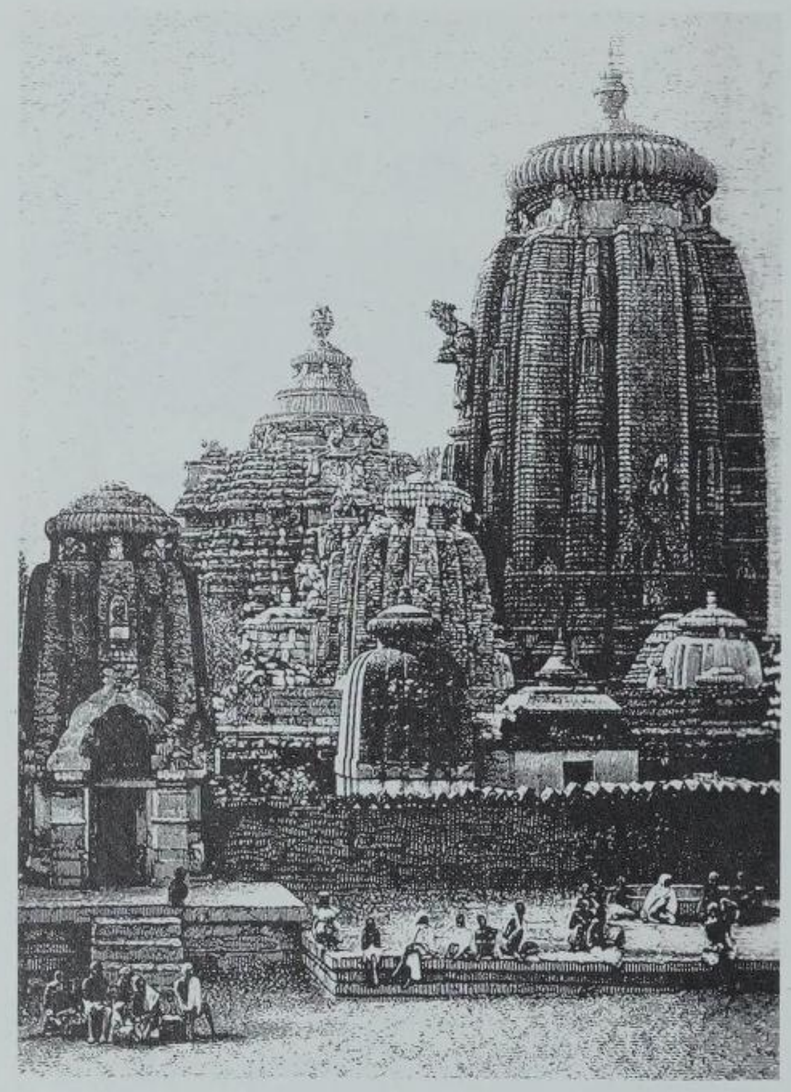

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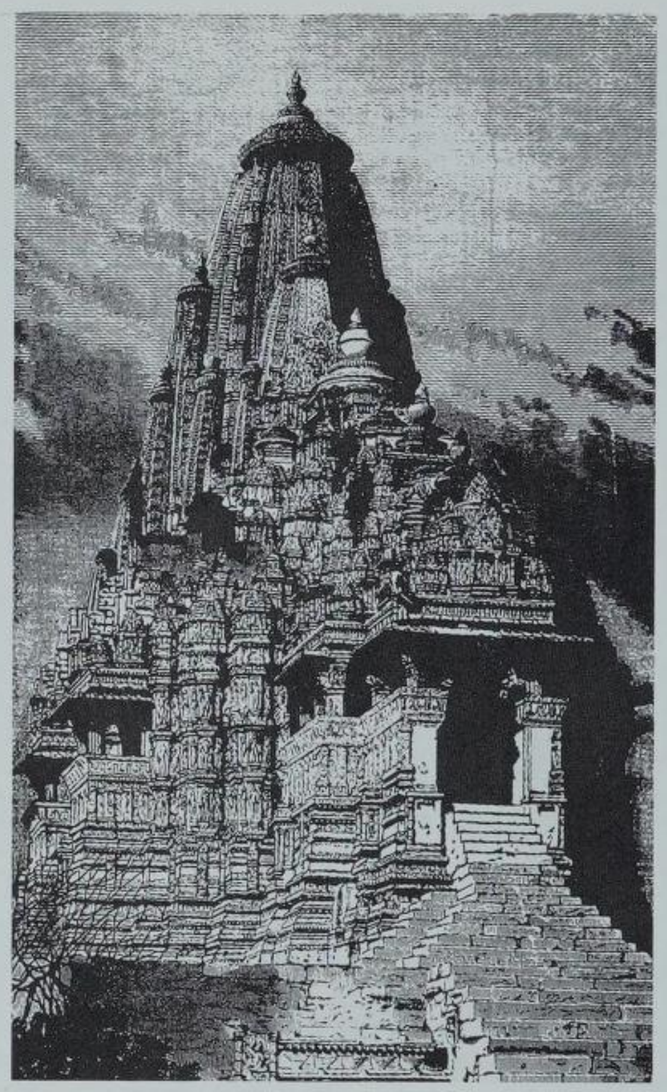
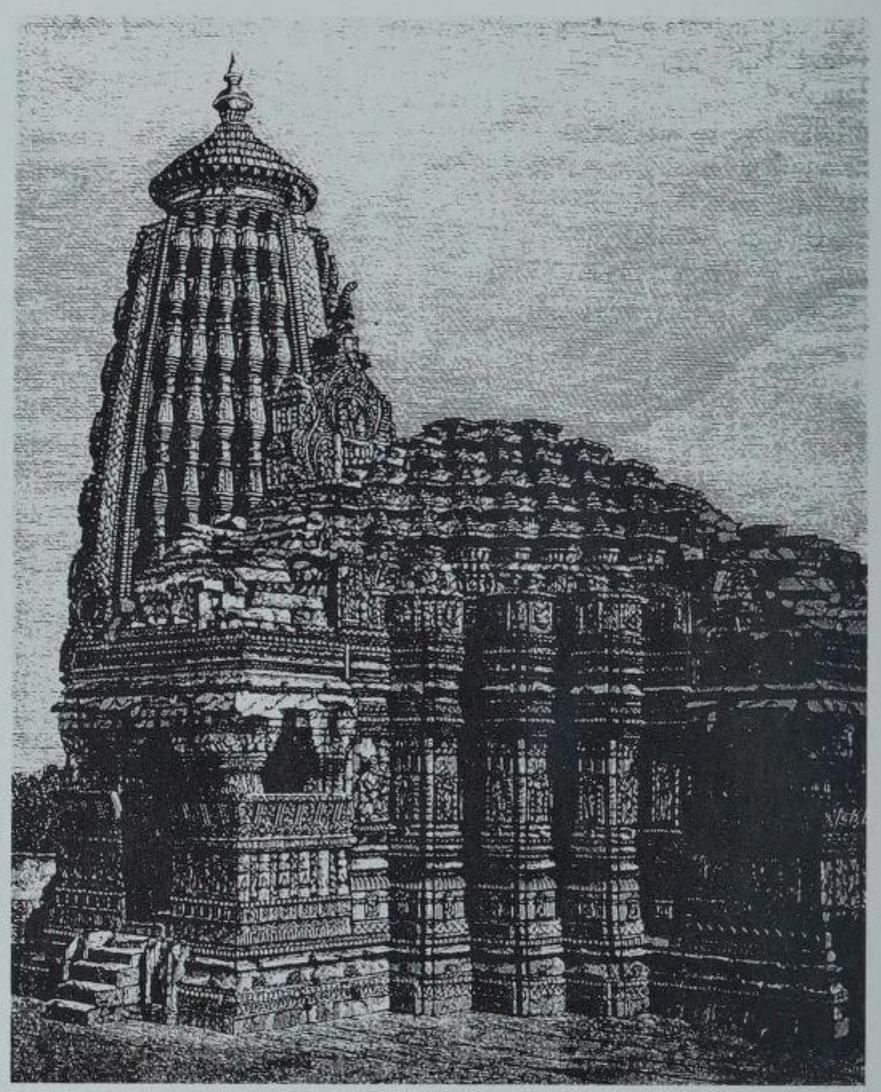


116 (b)



116 (c)

Ceilings are at first flat but later elaborate corbelling was to produce dazzling compositions with receding courses of diagonally disposed squares and other geometric forms or concentric circles of lotiform cusps and matching central pendants, often borne on flying figural brackets.

The Pratiharas

Amongst surviving remains it is difficult to establish a chronology which accords with the Pratiharas' progress to Kanauj. The most important groups of works generally credited to the early Pratiharas are at Osian in the heart of Gurjara, to the east in the great fort at Chittor and at Roda in the south by the border of modern Gujarat – which the Pratiharas had absorbed by the end of the 8th century. By then, too, they had reached north-central India, where several temples around Gwalior are comparable to the later works at Osian. The extraordinary Teli-ka-Mandir in Gwalior fort is the oldest surviving large-scale Pratihara work.[35]

113(b) On broad platforms the early works at Osian have five-bay *mulaprasadas* with porch and open hall but no vestibule or ambulatory and several are five-shrine complexes (*pancha-yatana*) like Hari-Hara I. Socles usually consist of one or two slabs and a *khura-kumbha-kalasha-kapota* dado in which the *kalasha* moulding is sometimes interrupted by a band of dentils representing joists below the central projection. In addition to *ghana-dvaras* for the principal manifestations of the deity in the central projections there are usually aedicules with *purna-kalasha* pilasters and high mesh-like pediments for *dikpalas* in the outer bays and for subsidiary deities in the intermediate ones, though occasionally the latter have pillar motifs instead or are left unrelieved – as in a subsidiary shrine of Hari-Hara I and the Surya Temple respectively. Above a recessed band with figural or geometrical relief, but no *chadya*, the *shikhara* is invariably Latina. Open halls are surrounded by *vedika* with 'seat-back' coping supporting truncated *purna-kalasha* columns and their internal pillars, square with projections, often have *purna-kalasha* for both capital and base to provide the extra height needed in the centre of halls, as in the Surya Temple and Hari-Hara III. The shrine portal of Hari-Hara III is typical of non-architectonic compositions with lotus, pearl and *mithuna* jambs rising from Ganga and Yamuna and *dikpalas*, but Surya's richly incised pilasters support a *prasada* lintel. Porches – and the balconies of Hari-Hara III – have flat roofs and even the later halls have two or three superimposed slabs without additional superstructure. Early ceilings are flat, later ones corbelled and embellished with carving, Hari-Hara III's nine-square hall is unique in having curved side vaults.

Like most of the other temples in the great fort at Chittor, the Kalika Matha and Kumbhashyama were altered by renovation in the 15th century. The nature of their original

116. Northern temple *shikhara* types:
(a) Latina – Bhubaneshwar, Lingaraja;
(b) Sekhari – Khajuraho, Khandariya;
(c) Bhumija – Udayapur, Udayeshvara.

117. Osian, Hari-Hara group of temples:
(a) Hari-Hara I; **(b)** Hari-Hara II; **(c–d)** Hari-Hara III; **(e)** Surya I; **(f)** Pipla Matha with Mahavira, background.

117 (a)

117 (b)

117 (c)

117 (d)

117 (e)

117 (f)

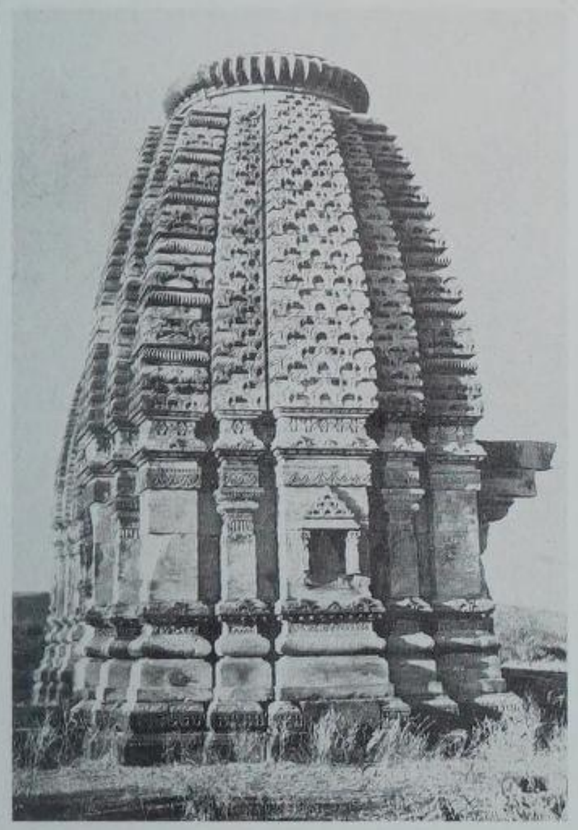
superstructures remains speculative but surviving fragments suggest that they were like the earliest examples at Osian. However, their *mulaprasadas* with ambulatories and balconies bordered by *vedika* with 'seat-back' coping are prophetic of later Pratihara practice. Equally prophetic, and soon developed at Roda, are the *purna-kalasha* pillar motifs attached to the intermediate projections. Unlike the earlier two works at Chittor, the Kshemankari incorporates a contracted base below the dado and this too marks an important departure.

Most of the works at Roda have five-bay *mulaprasadas* without ambulatory, like the temples at Osian, but they generally have only a porch. Sometimes with platform, they have socles unlike those of early Pratihara works elsewhere. Roda III, for instance, has a slab-like plinth with a semi-*kumbha*, a recessed zone and a festooned floor slab surmounted by a minor *padma*, all below a heavy dado which includes *khura, kalasha* and *kapota*. Walls are usually relieved only by *ghana-dvaras*. Roda III has a beaded valance all round and fluted *padma-kumbha* pillars in the intermediate recessions, which recall north-west Deccani rather than Gupta forms. *Shikharas* are all of the Latina variety, similar in their stunted profile and bold central bands to the predominant type at Osian. Porches sometimes have pitched roofs in superimposed tiers with bold blind dormers, like those of the Maitrakas. Pillars are usually exquisite examples of the square type with *purna-kalasha* capitals and the sanctuary portals of Roda IV and III well represent respectively the non-architectonic and architectonic approaches – the deeply carved pilasters of the latter, conforming to the type of the attached pillars outside, bearing a particularly elegant suite of five niches assimilated to the *prasada* motif.

Dedicated to a *shakti* cult, the Teli-ka-Mandir at Gwalior consists of an elevated rectangular *mulaprasada* with double oblong *shikhara* and closed portico. The sides have three bays, though there are small intermediate recessions and the central zone steps out in diminishing planes below the bizarre superimposed horseshoe window motifs of the *shikhara*'s two levels. There are two principal projections to the back with *ghana-dvaras* bearing tiered *kapotas* and miniature lunettes, like those of the sides, flanked by aedicules with various *shikhara*-like superstructures. On a simple platform and stepped base the unorthodox dado has a double recession with *kalasha* and *kapota*. The stepped superstructure over the portico is modern but the Kameshvara at Auwa – the Teli-ka-Mandir's contemporary – has one of the earliest surviving examples of a Phamsana roof, for which precedents may most plausibly be found in the Maitraka tradition.

Thus, in these early works the various elements of the mature northern complex had appeared – Latina *mulaprasadas* with varied planes accommodating ambulatories, balconies, open halls with full *vedika* and

118. Gwalior, Teli-ka-Mandir: *mulaprasada* and truncated entrance hall.



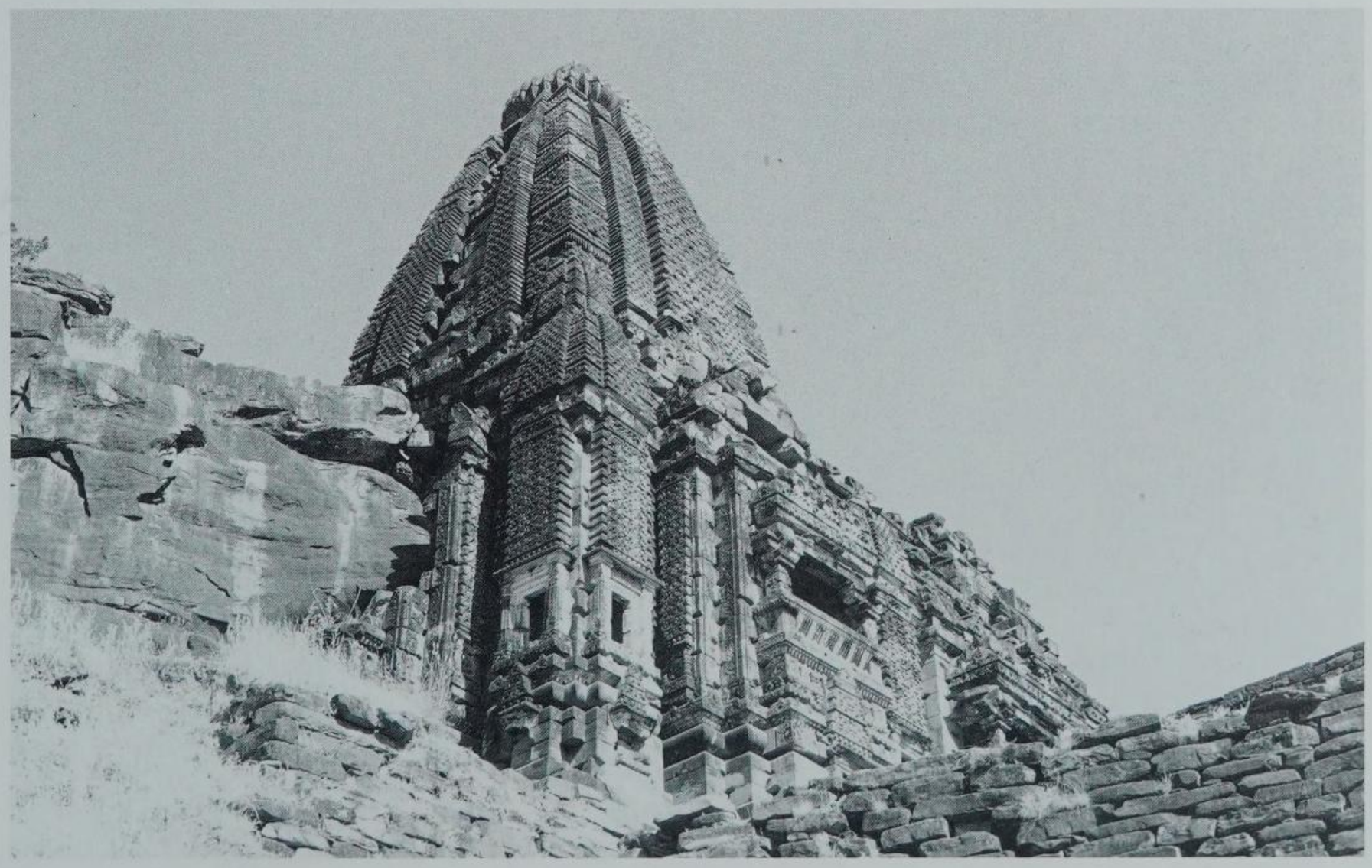
119. Roda, Temple III.

120. Baroli, Ghateshvara Temple: *mulaprasada* and portico from south-east.

closed ones matching the *mulaprasada,* Phamsana roofs, richly faceted supports with varied *purna-kalasha* or *padma-kumbha* capitals. In the next phase of their development the Pratiharas turned their attention to the elaboration of the socle and the superstructure. The process may be traced from Gyaraspur and Baroli to Jagat and Kiradu.[36]

The Ghateshvara at Baroli has a Phamsana in two registers over its square portico with parapets bearing elaborate aedicules and miniature Latina *shikharas* at the corners. In this and several other features the Baroli temple anticipates the sumptuous practice of the Chandellas in particular: the *shikhara* is taller, more elegantly curved than hitherto, and has central bands which penetrate up into the zone of the *amalaka*'s base; there is now a vestibule crowned by a high and elaborate gable composition in which a variety of miniature shrine forms play an important part; *apsaras* adorn alternative facets of octagonal pillars whose capitals incorporate graded rings, stepped friezes and convoluted brackets; undulating arches are suspended from the columns at the entrance. 113(a)

The partly excavated Gyaraspur Temple is more advanced in plan, with ambulatory as well as vestibule and closed hall with balconies and porch making it cruciform. Its *shikhara*, with nine miniature Latina forms clustered about its base, is perhaps the oldest surviving Sekhari example in the central



121. Gyaraspur, Mala Devi Temple from south-west.

domain of the Pratiharas. The roofs of both hall and porch are Phamsana. The dado with *kalasha* and *kapota* is raised on a high podium.

12 The Ambika Matha at Jagat is an early and exquisite example of the further elaboration and synthesis of the various elements so far encountered: five-bay *mulaprasada*, with ambulatory, and equilateral projections suggesting a diagonal as well as octagonal grouping of facade elements in response to the clustered composition of its Sekhari *shikhara*; Phamsana-roofed, cruciform closed hall with richly detailed aedicules matching those of the *mulaprasada*; porch with high *vedika*, seat-like coping and prominent *chadya*, elaborately carved *purna-kalasha* pillars with prominent bracket capitals; five-jamb portal with niches virtually obscured by the vibrant figures spilling from them; gorgeous ceilings; a base differentiated between the two main parts of the temple, including major and minor *padmas*, *karnaka* or *kumbha*, and friezes of elephants and *krittimukhas* below a dado with superimposed *khura, kumbha, kalasha* and *kapota*.

Likewise, the Vishnu and Someshvara Temples at Kiradu may be taken as representative of the still more sumptuous culmination of the Pratihara tradition. The latter is distinguished by the octagonal arrangement of the many-faceted pillars which define the central space of its hall. It also has one of the earliest-known seven-bay *mulaprasadas* with a socle expanded to include three friezes of human figures, horses and elephants. The slightly earlier, but equally splendid, Vishnu Temple is also notable for the Samvarana roof of its hall – one of the earliest known examples of the type, clearly revealing its evolution from the Phamsana form.

By the end of the 10th century when the Vishnu temple of Kiradu was dedicated, the power of the Pratiharas had waned. The culmination of Northern development was achieved by their greater feudatories, now the rulers of

122. Jagat, Ambika Matha Temple from south-east.

123. Kiradu, Someshvara Temple: remains of hall.

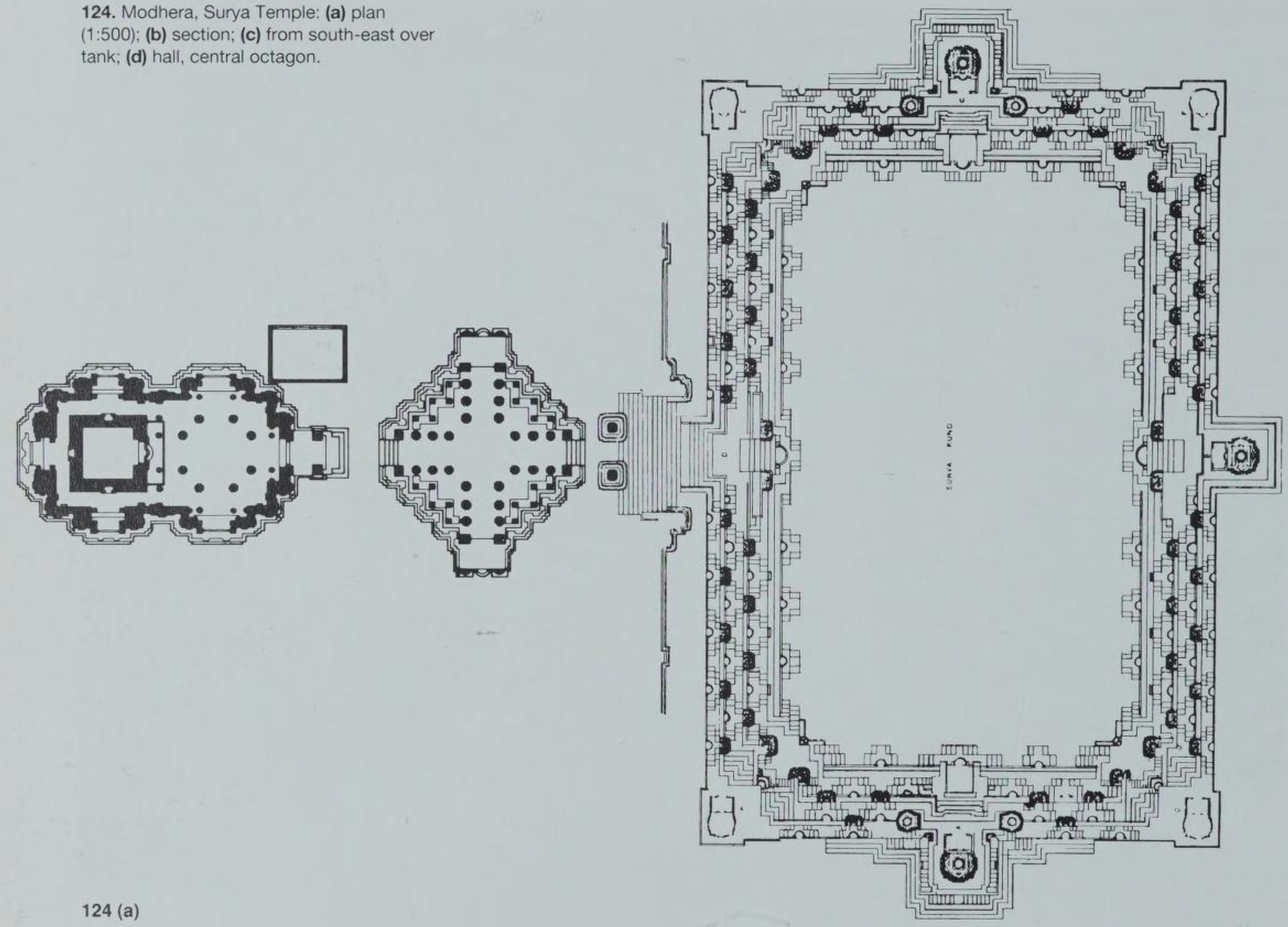
independent kingdoms – indeed Kiradu was already a Solanki site well before the construction of the Someshvara Temple.

The Solankis

Heirs to much of the original Pratihara domain and related in marriage to the Chalukyas of Kalyani, the Solanki kings who ruled most of north-western India from the 10th century were prolific builders on the proceeds of trade through the rich ports of Kathiawar and Gujarat. But for the exposure of their kingdom to the full force of Muslim iconoclasm, their major sites would rank in fame, as in importance, with those of Khajuraho and Bhubaneshwar. As it is, their achievement at its peak is represented only by fragments of which the Surya Temple at Modhera, by no means the most extensive, is the most substantial.[37]

Standing on a platform unusual hitherto in Gujarat, the Modhera Temple consists of three axially aligned elements: a five-bay *mulaprasada* with ambulatory and superimposed *garbha-grihas* and matching attached closed hall, a detached, cruciform open pavilion, and a free-standing *torana*. Before the whole complex is a magnificent flagged tank surrounded by smaller shrines. With orthodox dado but a range of lower mouldings embracing most known varieties – including major and minor *padmas* and *karnaka*, as well as *kirttimukha*, elephant and narrative friezes – the base marks an advance over the ones at Kiradu. The central projections of the west, north and south faces are occupied by matching balconies with *purna-kalasha* columns and a deep porch frames the entrance in the east. As at Kiradu the equilateral subsidiary projections and corner bays are similar in their extremely rich treatment, with *apsaras* and other *shakti* and 'Water Cosmology' symbols of fecundity in superimposed niches flanking the main icons in their aedicules. The ring of spectacular multi-faceted columns, deeply incised with figures in niches and the usual repertory of symbolic motifs, forms a great octagon in the closed hall. The splendid open pavilion is actually comparable with the closed hall in plan and size but this is obscured by the absence of walls and the extension of the cruciform arrangement of the columns to form porticos with flying arches at the cardinals. The columns are exceptionally rich examples of multi-faceting and the flying

124. Modhera, Surya Temple: **(a)** plan (1:500); **(b)** section; **(c)** from south-east over tank; **(d)** hall, central octagon.



124 (a)

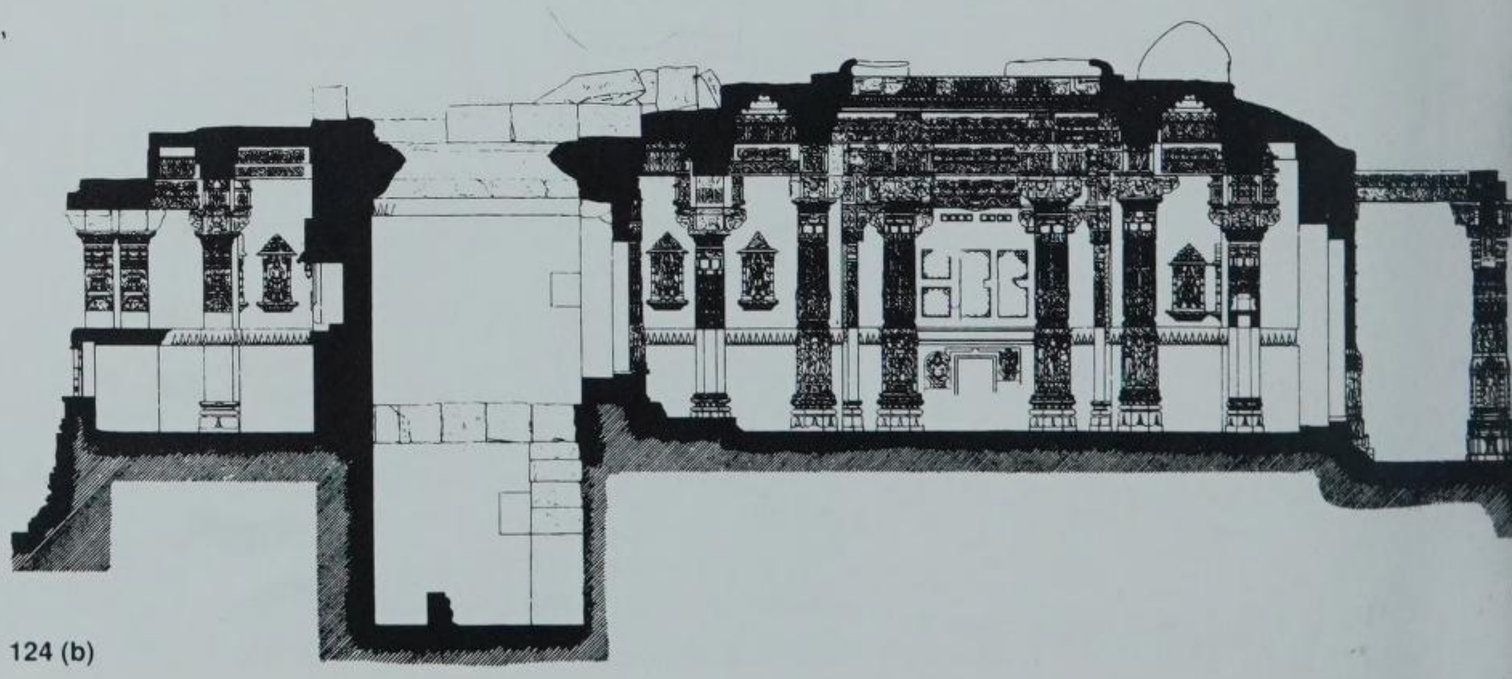
124 (c)

arches girding the central octagon are alternately cusped and undulating. As at Kiradu the *vedika* has lavishly adorned verticals and coping below dwarf *purna-kalasha* columns. The superstructures are fragmentary but enough remains to suggest that the *shikhara* was Sekhari and the roofs of the halls Samvarana. As in the slightly earlier, much better preserved but smaller Nilakantha at Sunak, this was to be common Solanki practice.

49(b); 113(c);

The major 12th-century works, carried out by the great rulers Siddharaja Jayasimha (1094–1143) and Kumarapala (1143–72), are notable for their vast scale. The Navalakha temple at Sejakpur is amongst the finest, rivalling the Modhera temple in size, but it is far overshadowed by the stupendous Rudramala on the banks of the Sarasvati at Siddharpur. Enormous though the resources required for this work must have been, Siddharaja and his successor found more for many other vast complexes – such as one at Vadnagar of

115(a)



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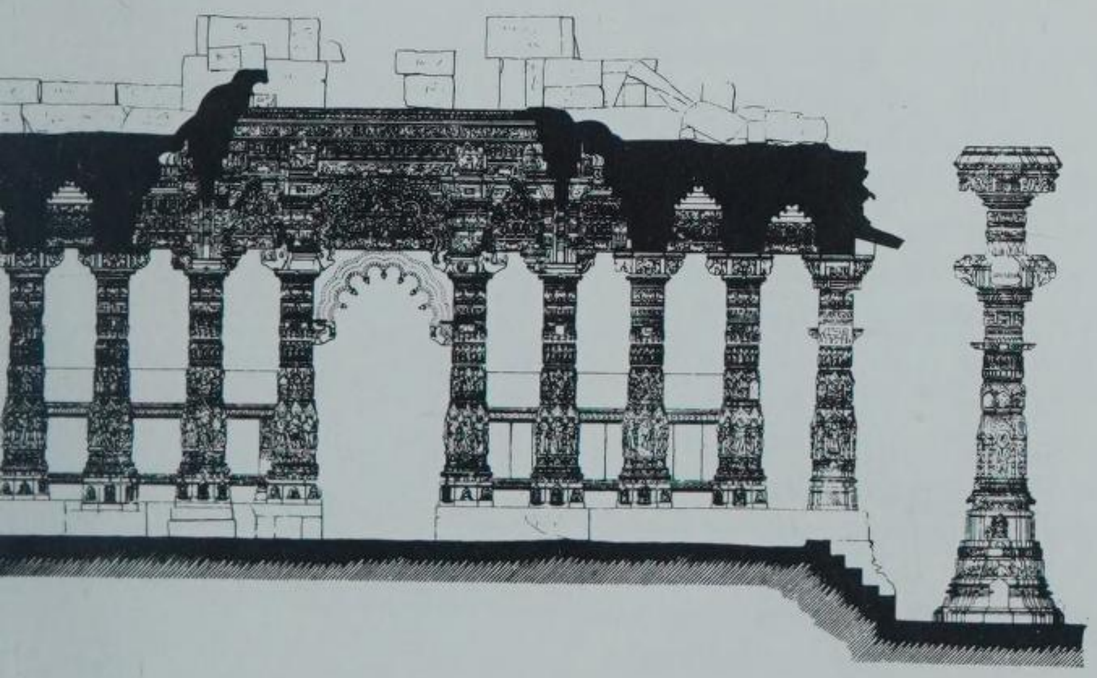
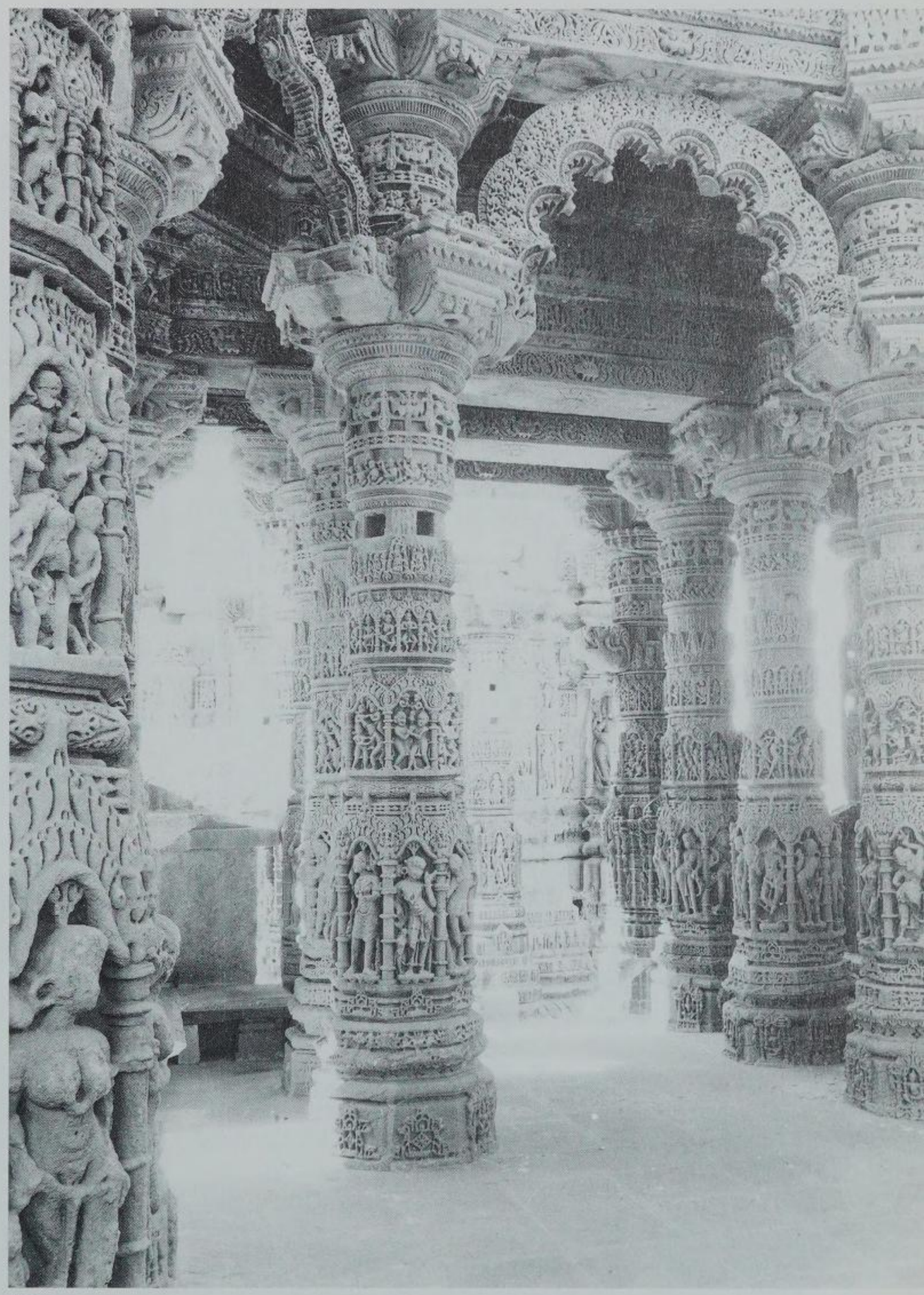
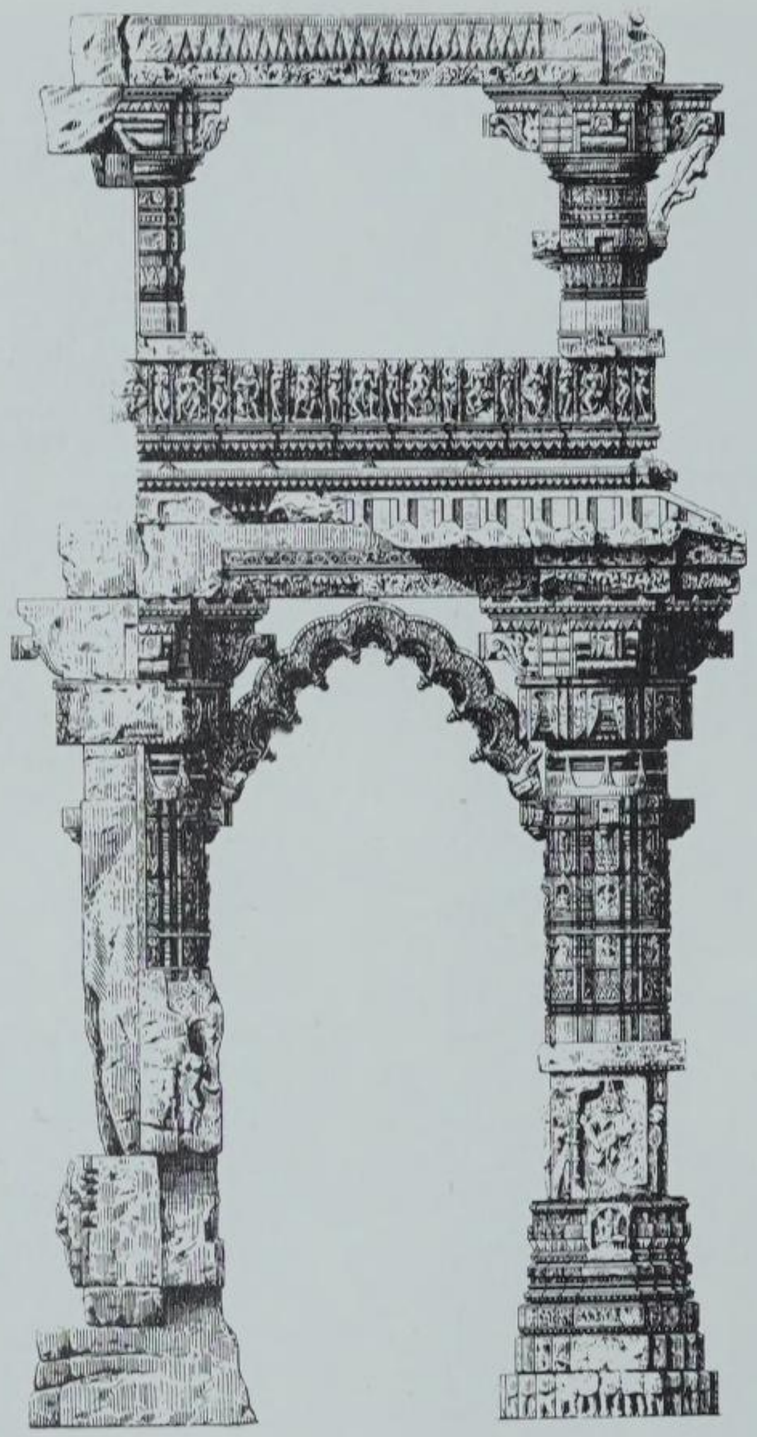


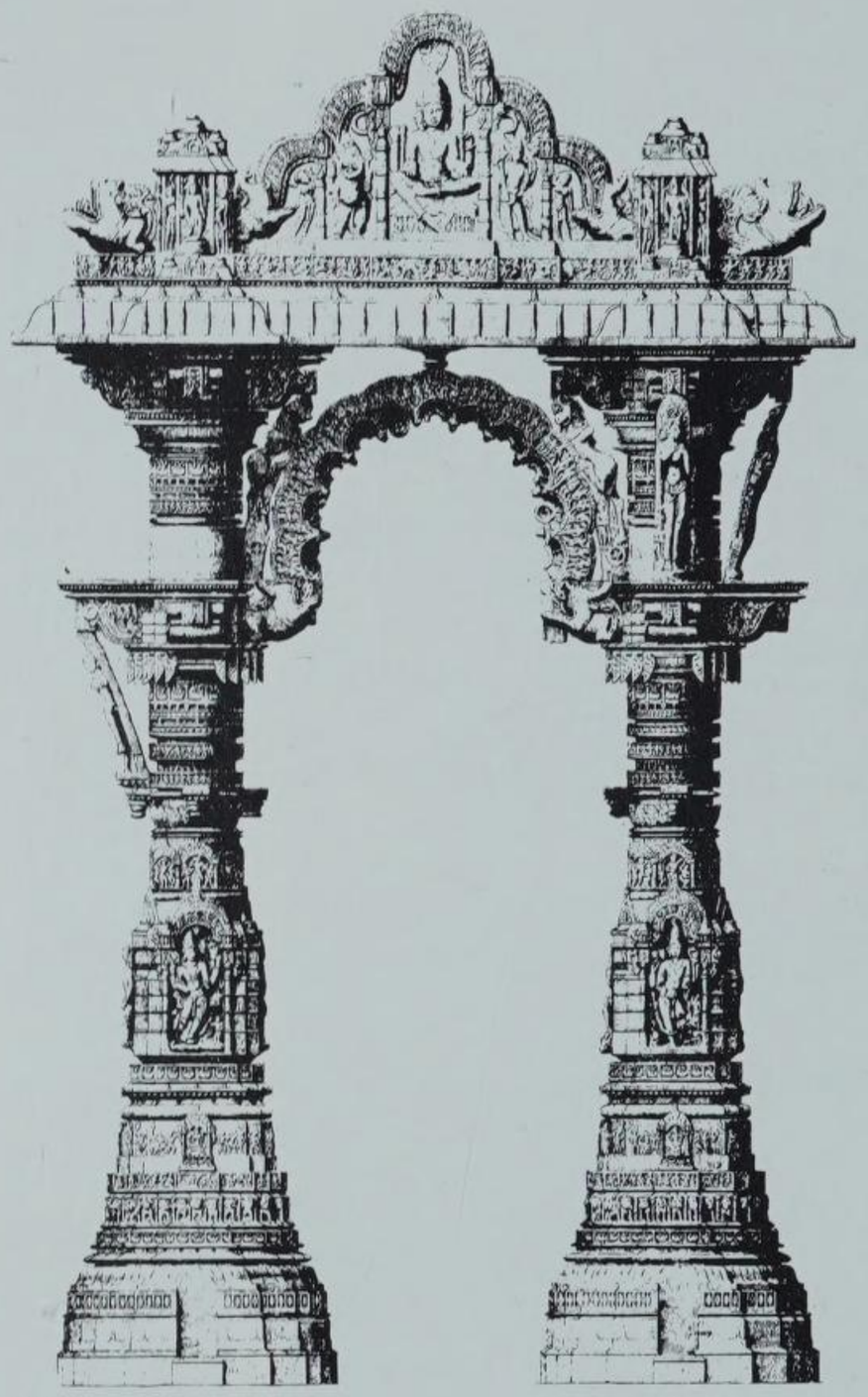


124 (d)

which only a great *torana* remains – and the rebuilding in emulation of the Rudramala of the Somnatha Temple at Prabhas Patan after its destruction by Mahmud of Ghazni in 1025. Of the Rudramala, only the northern and eastern porches, an interior screen and one of a pair of *toranas* remain to guide conjectural restoration of a scheme comparable to that of Modhera but twice as extensive and two storeys high. Superimposed columns screened the arms of a cross from the broad ambulatory in the closed hall, eight major and sixteen subsidiary columns, again in two storeys,



125 (a)



125 (b)

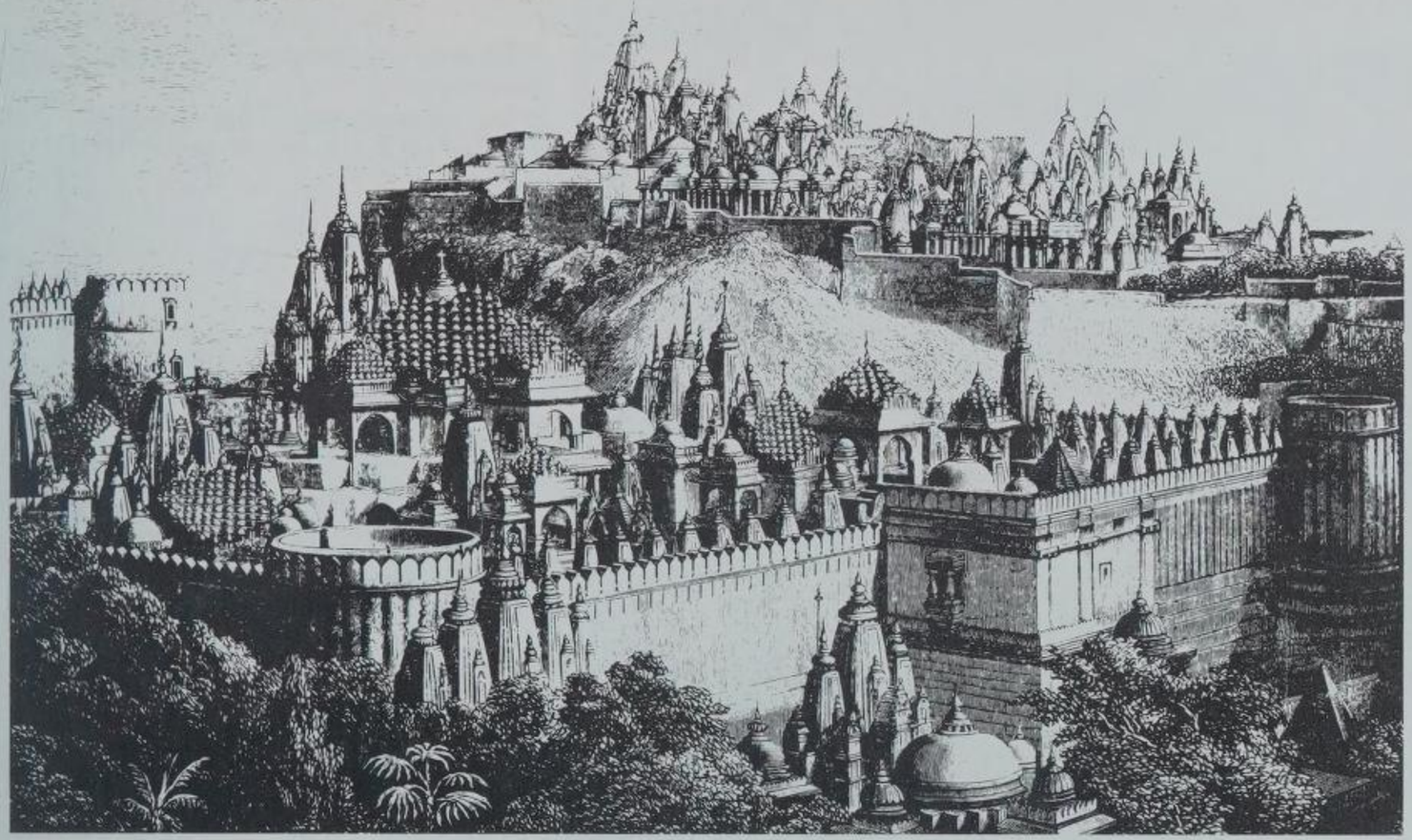
125. Great Solanki temple remains:
(a) Siddharpur Rudramala, portico;
(b) Vadnagar, *torana*.

ring the vast octagonal central hall and six more large columns form porches north, south and west. Eleven subsidiary shrines, dedicated to the Rudras, surrounded the main structure.

It is hardly surprising that after yet another grand scheme, the Navalakha at Ghumli of the early-13th century, royal patronage flagged. Yet, though the Solanki domains were the first to feel the full force of Muslim vandalism, their architectural tradition continued to flourish: even when the Sultanate was establishing itself in the area from the beginning of the 14th century, demolishing temples and pressing native workers into their alien service, a late flowering of the most florid of northern strains was fostered by wealthy Jaina merchants in spectacular fortified complexes in the mountains of the west.

Ministers of the Solanki rulers themselves were responsible for the great Dilwara series of Jaina shrines at Mount Abu inaugurated by the Vimala-Vasahi early in the 11th century and completed by the Luna-Vasahi 200 years later. This extraordinary achievement echoed through other mountain fastnesses in Kathiawar and Gujarat – notably Kumbheria, Satrunjaya and Mt. Girnar – and is reflected in such exquisite Rajasthani fort-temples as the Salindheshvara at Chittor. *16(a),(b)* Unsurpassed, however, are the mid-15th century Dharana-Vihara (Adinatha Temple) at Ranakpur and the related monuments with which the Jainas replaced earlier shrines desecrated by the Muslims in Kathiawar and Gujarat.[38]

As elsewhere in India, the Jainas drew directly on the Hindu repertory of forms, re-organising them to cater for their devotion to multiple Tirthankaras. As in the typical orthodox Hindu shrines of the region, the main elements are a *mulaprasada* with ambulatory preceded by closed and open halls aligned east/west on a plain platform – as at Mount Abu, for instance. The *mulaprasada*, which the closed hall matches, is distinguishable from Brahmanical ones by its extremely rich Jaina iconography. The socle is of the full



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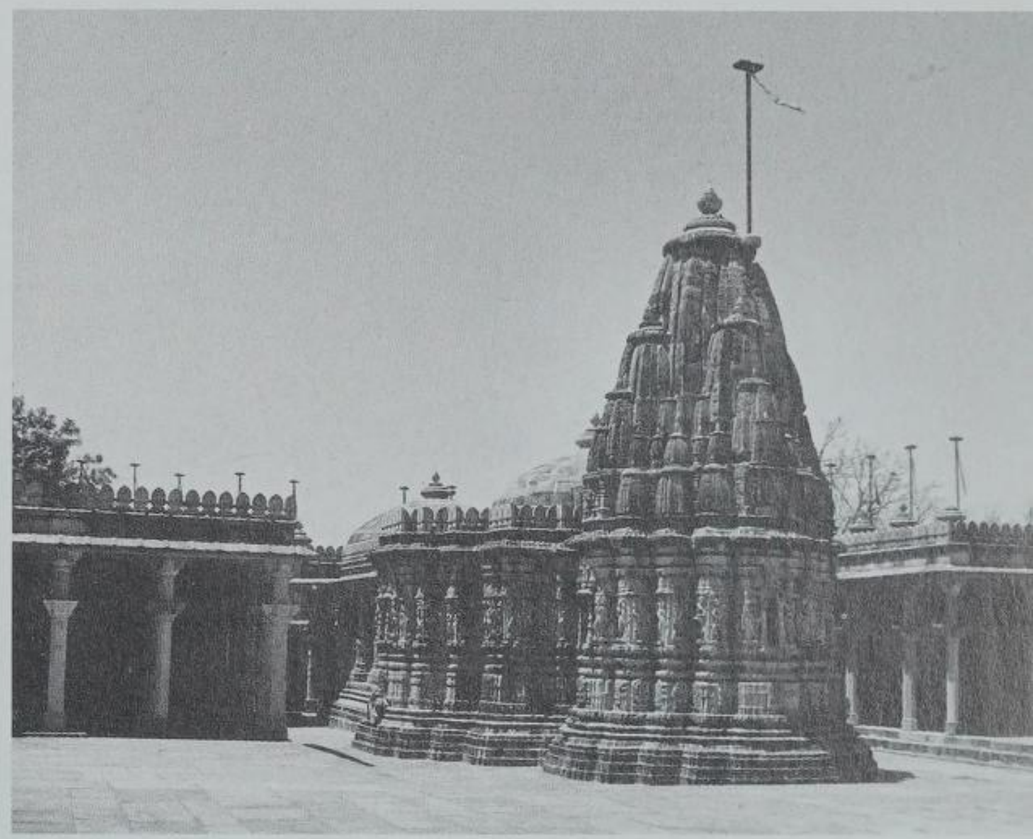
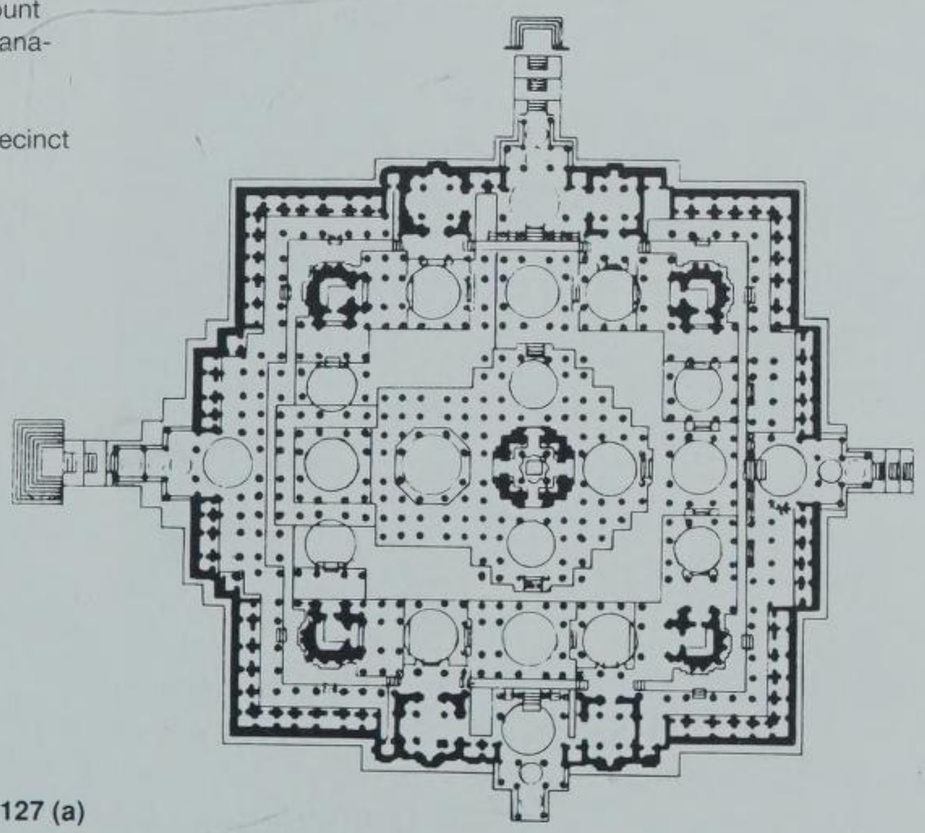


128

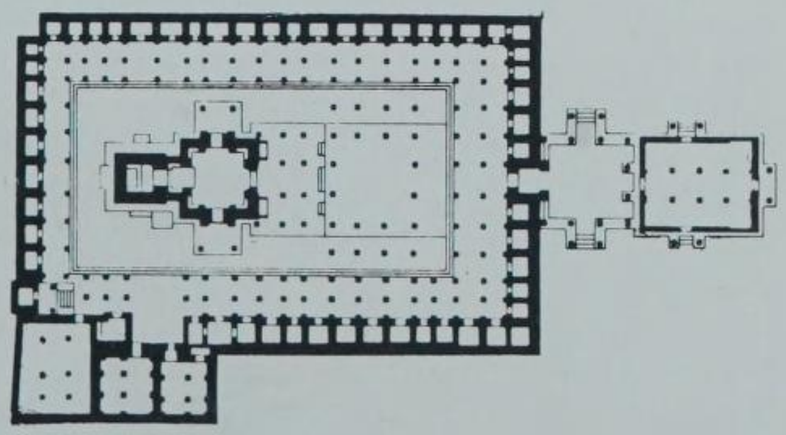
126. Satrunjaya, Jaina temple stronghold.

127. Jaina temple plans (1:1000): **(a)** Mount Abu, Vimala-Vasahi; **(b)** Ranakpur, Dharana-Vihara.

128. Chittor, Salindheshvara Temple: precinct and main shrine from south-east.



127 (a)

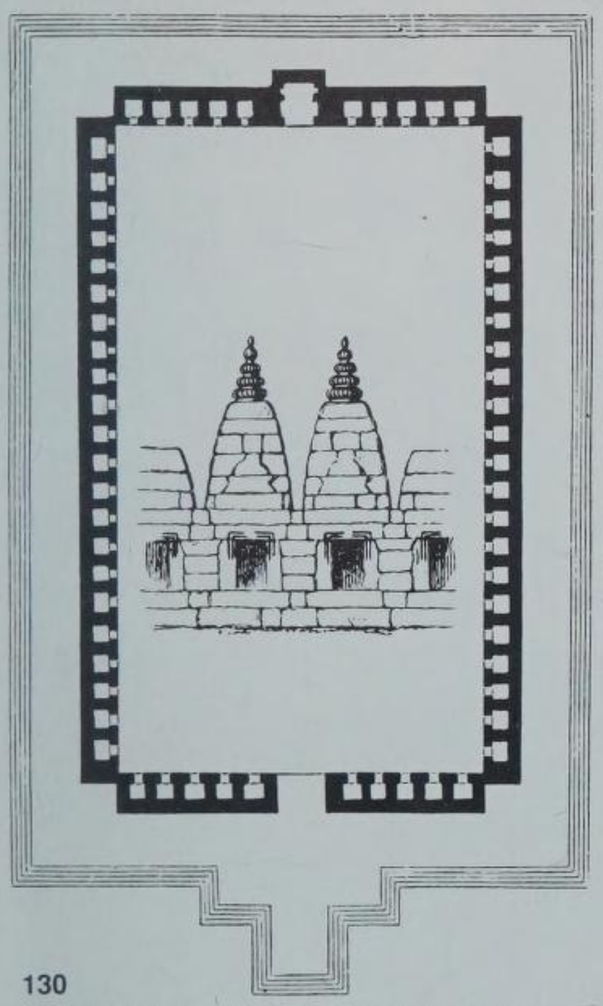


127 (b)

Solanki type, the Jainas usually including a frieze of the Tirthankaras – as in the Salindheshvara at Chittor. The *shikharas* are usually Sekhari, the hall roof Samvarana unless replaced by false domes. The Vimala-Vasahi – as rebuilt after many Muslim raids – has a magnificent six-bay open hall; at Chittor, the hall is of three bays. Their many elaborate pillars and richly corbelled ceilings are typical of Jaina works, but unlike Hindu ones there is no *vedika* and on either side of the portal to the *garbha-griha* are aedicules enshrining Tirthankaras.

From as early as the 9th century, perhaps the most characteristic feature of Jaine temples – anticipated in the typical Buddhist sanctuary, in Yogini temples and in several of the great Hindu complexes of the south – is the row of miniature *mulaprasadas* introduced to house the images of the twenty-four Tirthankaras on the edge of the platform. After the 12th century the series was extended to 52 or 74 to run the entire length of the wall enclosing the complex – as in the Luna-Vasahi and Adinatha at Mount Abu. The porches of the subsidiary shrines are joined to form single or double cloisters which usually return along the entrance side of the platform, covering and framing the entrance steps or passage to form an entrance hall. This may be of more than one storey and project beyond the enclosure wall as a porch if the steps stand before the platform as in the Vimala-Vasahi. An open court between the subsidiary shrines, the portico and the entrance hall survives in several of the greatest works – the vast Adinatha Temple at Satrunjaya and Neminatha at Mt. Girnar for instance – but often a sumptuous open hall of nine squares or more, with gorgeous ceilings and multi-faceted piers linked by flying arches, was inserted and joined to the cloisters immediately adjacent to it. Indirectly

129. Ranakpur, Dharana-Vihara: great western hall.



130

130. Khajuraho, Chaunshat Yogini Temple: plan (1:500).

131. Khajuraho, Parshvanatha Temple from south-east.

lit, infused by the opalescent sheen of the local *arasa* marble, the open hall is the chief glory of Jaina architecture. The most celebrated extant examples are at Dilwara, but in all the great Jaina complexes equally fine ones survived, or were built after, the Muslim invasion.

Beyond the elaboration of the essentially Brahmanical plan form, the culminating achievement of Jaina architects was the four-faced (*chaturmukha*) temple – based on a centralized plan anticipated as early as the Deogarh 'Dashavatara' – with halls succeeding one another before all four sides of a *mulaprasada* enshrining a four-faced image of the Jina. Literary references to the form date from the 12th century and the Dharana-Vihara at Ranakpur, the earliest surviving example, was supposedly modelled on the vanished 12th century Rajaviharas at the Solanki capitals of Anhilavada and Siddharpur.

In the Ranakpur temple the closed hall is omitted but four magnificent open halls stand before the four faces of the *mulaprasada*, that to the west being larger than the others. Beyond these are additional majestic three-storey halls communicating with the entrance halls and yet more halls serving subsidiary two-faced shrines in the corners. Further subsidiary shrines flank the north and south entrances and there are as many as eighty-four peripheral *mulaprasadas*. All the *shikharas* are Sekhari. The view from the entrance through the succession of open halls with sunlight entering their clerestories and penetrating the suffused atmosphere as a strong beam illuminating a succession of individual elements on the shafts of the great, many-faced piers, is unsurpassed in all India.

131

The Chandellas and their Neighbours

The most significant among the former feudatories of the Pratiharas in central India during the 10th and 11th centuries – culturally as well as politically – were the Chandellas of Jejakabhukti. Loyal defenders of the interests of their overlords for several generations, after asserting their independence under Dhanga (c.950–1002) they were prolific builders in their major towns and strongholds, above all in their capital, Khajuraho. With the contemporary efforts of the Solankis in Gujarat and the Somavamshis in Orissa, their great series of works there marks the culmination of northern temple development.[39]

The monuments of Khajuraho are divided into three groups west, east and south of the modern village. The earliest structures, of granite and datable to the late 9th century on stylistic grounds, are the Chaunshat-Yogini and Lalguan to the south and north-west of the western group and the Brahama to the west of the eastern group. Like other hypaethral temples elsewhere in India dedicated to the celebration of the *shaktis* or 'Working Energies' (*yoginis*) of the pantheon, central to Tantric cults, the Khajuraho Chaunshat-Yogini has a broad terrace with an open court bordered by unadorned cells for sixty-four *avarana-devatas* – the sacred number enshrined in the Manduka Mandala – in a regular series broken only in the centre of the south range, opposite the entrance, by a large shrine for Shiva Bhairava. The Lalguan and Brahma temples, like so many earlier Pratihara works, consist of a Phamsana-roofed *mulaprasada* with bold central projections and shallow hall portico over a plain platform. The base has both plinth and dado and the wall is divided into two registers below an entablature whose frieze is the main ornament.

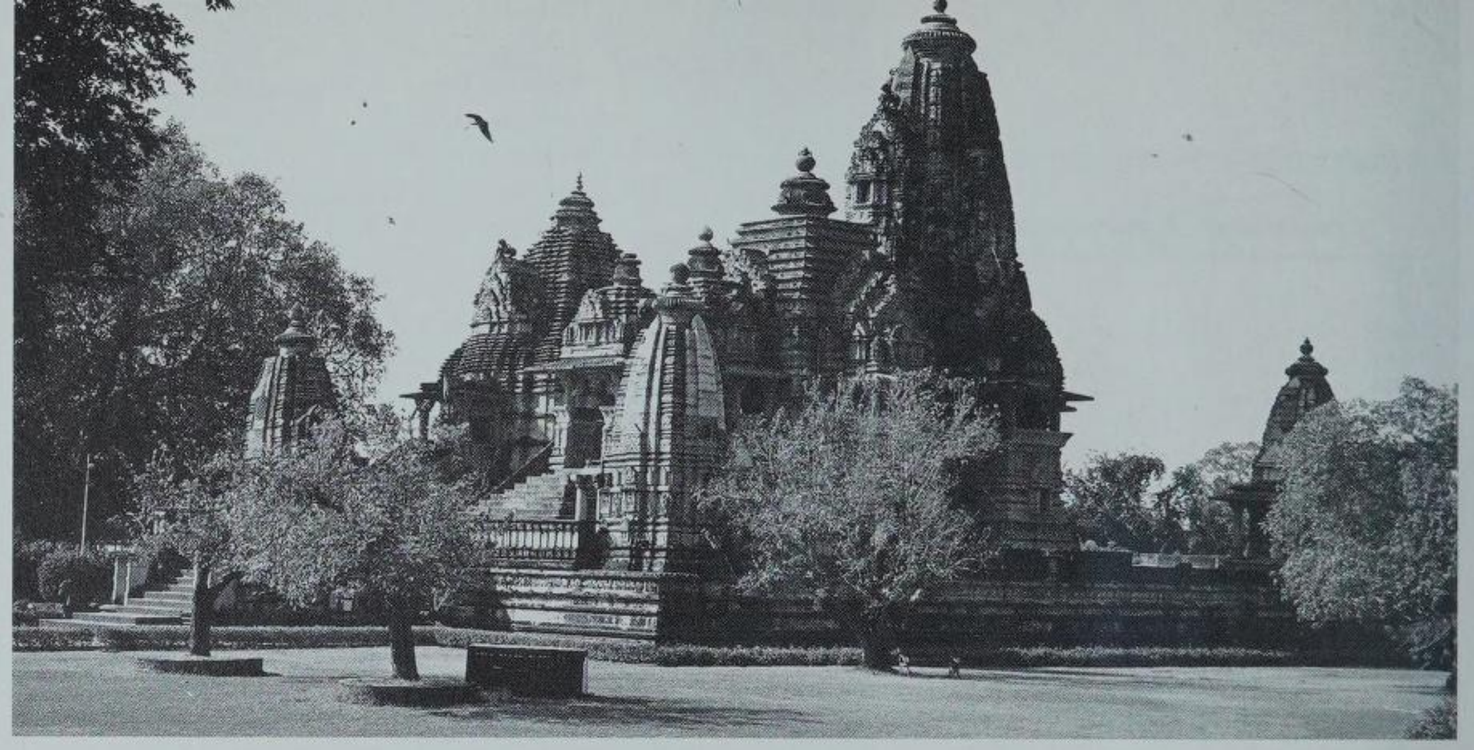
Reflecting important late-9th century developments elsewhere in Pratihara domains – the dado and roof of Baroli in particular – these early Chandella works have a rugged simplicity quite distinct from the works of the later Pratiharas and, indeed, from their own sandstone successors at Khajuraho. The main series of these begins with the Lakshmana, the Vaishnavite foundation of Yashovarman I (died c.950), and continues with Dhanga's Shaivite Vishvanatha and Jaina Parshvanatha, the Surya Chitragupta and the originally Vaishnavite Devi-Jagadamba of Ganda (1002–17) and the Shaivite Khandariya Mahadevi of Vidyadhara (1017–29). In addition to the cult of their orthodox dedicatees, most of these works also seem to have been associated with Tantric rites which, as we have seen, were not in principle incompatible with orthodoxy.

The Parshvanatha, the main temple of the eastern group,

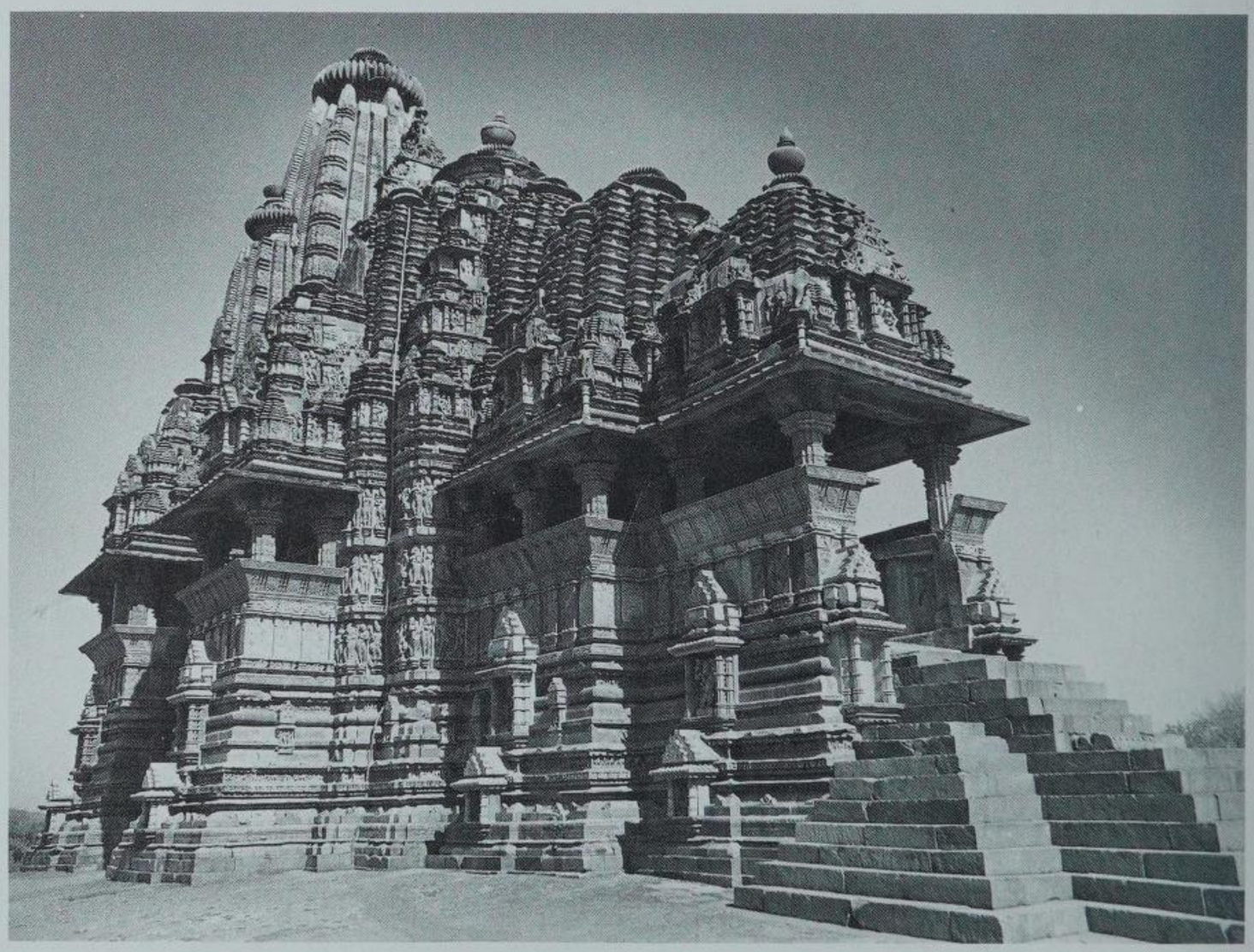
is a sumptuous if rather compressed composition in which the *mulaprasada* and closed hall are juxtaposed without major recession or projection and assimilated in articulation. Above a base and socle including an elephant frieze, the wall is divided into two richly ornamented registers and a lavish entablature. The *shikhara* is Sekhari and the elevated vestibule gable is made up of a variety of miniature shrine
120 types as at Baroli. Also as at Baroli, the Phamsana roof is bordered by a parapet of miniature shrines, though here the whole is much taller and the miniature shrines obscure most of the roof itself. The essential compactness of the composition is denied by the projection of an additional shrine chamber from the west of the *mulaprasada* and of a portico before the main entrance in the east. Along with superb *mithunas*, Vaishnavite iconography plays a prominent part in the rich sculpture of the exterior, despite the temple's Jaina affiliation.

113(d),(e); 13(a) The Chitragupta and Devi-Jagadamba, though without ambulatory and comparable in scale to the Parshvanatha, are more closely related in articulation to their great companions in the western group – the Lakshmana, Vishvanatha and Khandariya. Each of these, however, has an open pavilion between the portico and main closed hall and their *garbha-grihas* are encircled by ambulatories. A discernible progression confirms the inscriptional evidence for their dating. All have high, broad and elaborately moulded platforms that of the Khandariya joined to the Devi-Jagadamba's to provide for the small Mahadevi. The five-shrine Lakshmana and Vishvanatha have separate pavilions for Garuda and Nandi respectively before their entrances. All have high and elaborate bases and dados incorporating the full range of mouldings and an increasing number of friezes, interrupted by aedicules, guardian and attendant deities.

The Lakshmana is still basically of five bays, with deep balconies projecting from both *mulaprasada* and closed hall. Its walls are divided into two registers alive with wonderful *shardulas, apsaras* and *mithunas* whose vigorous sexuality reflects the elaboration of the *Kama Sutra*, of special relevance to the Tantric sects which seem to have played a prominent part in the life of Khajuraho from the outset. The Chitragupta and Devi-Jagadamba, like the Vishvanatha and Khandariya, have seven-bay facades with three registers of dazzling sculpture; the principal manifestations of the deity in their *ghana-dvaras*, visible from without in the central projections of the Chitragupta and Devi-Jagadamba, are lit by the balconies opening from the ambulatories of the other three great works. The *vedikas* of porticos, balconies and open halls are relieved only by shallow slats, introducing a note of severity as sharply in contrast with the luxury of the walls as their voids are to the masses. Beyond the porticos, with flying arches, the halls are divided by matching piers and pilasters, generally recessed, occasionally faceted, with



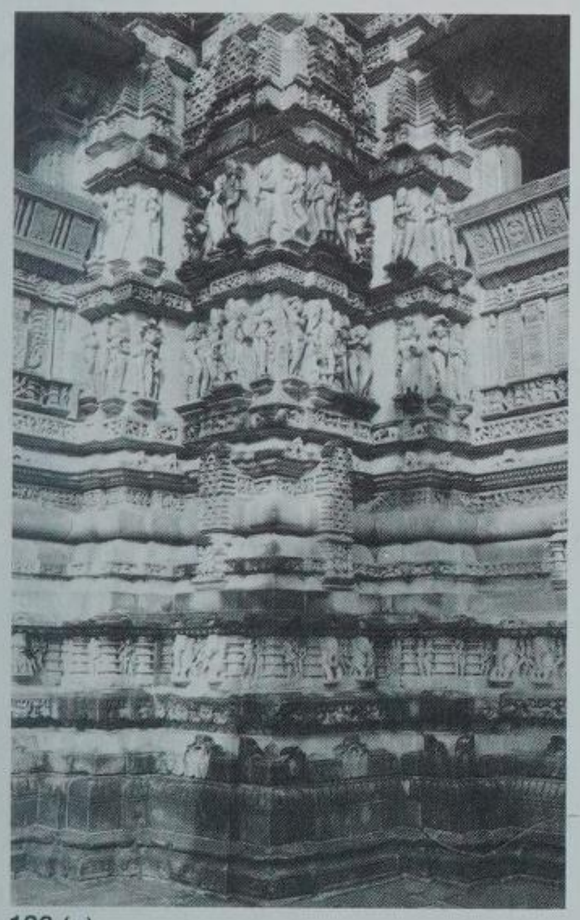
132 (a)



132 (b)

132 (c)

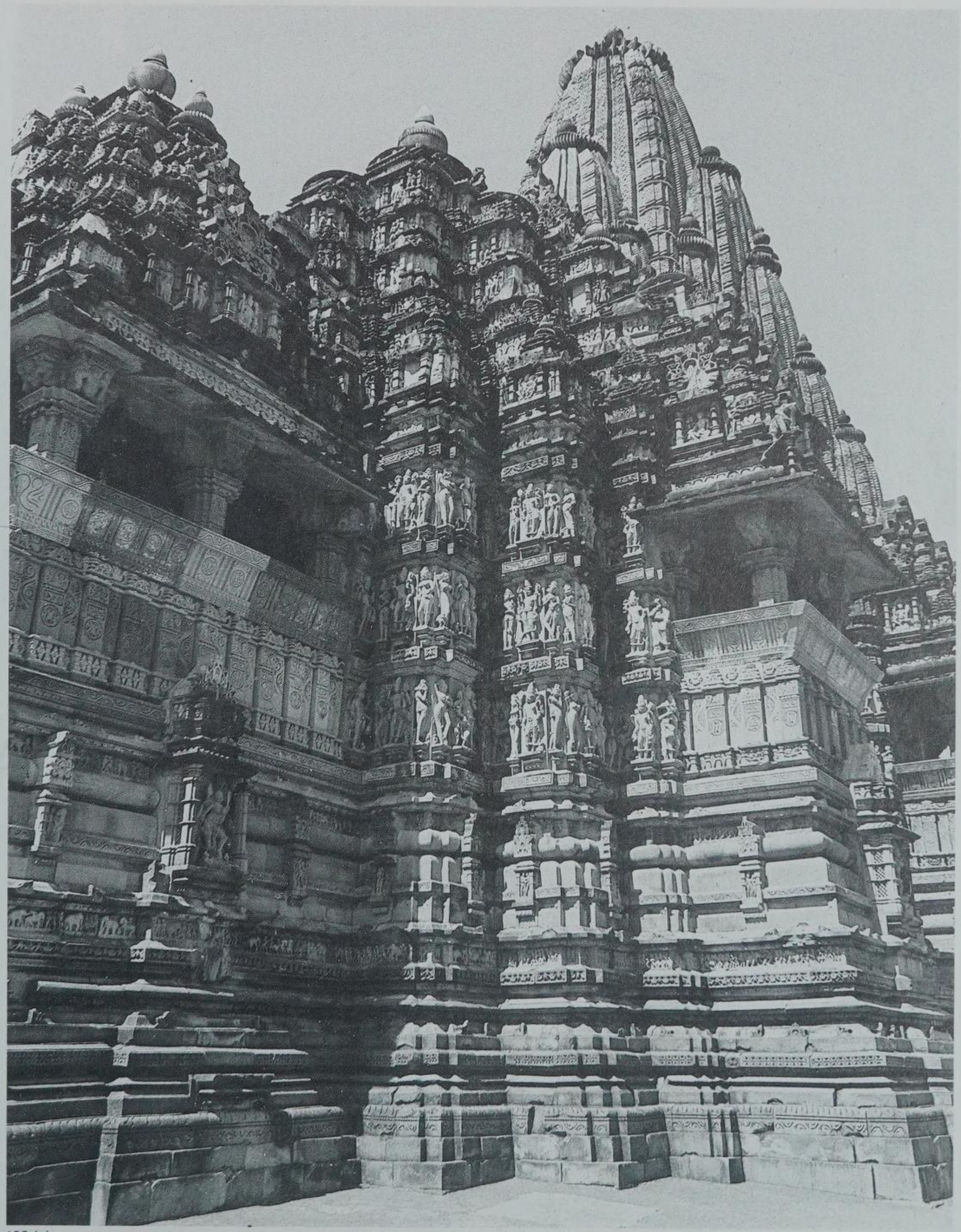
132. Khajuraho, western group temples:
(a) Lakshmana from north-east;
(b) Vishvanatha from south-east;
(c) Khandariya-Mahadevi and Jagadamba from north-east.



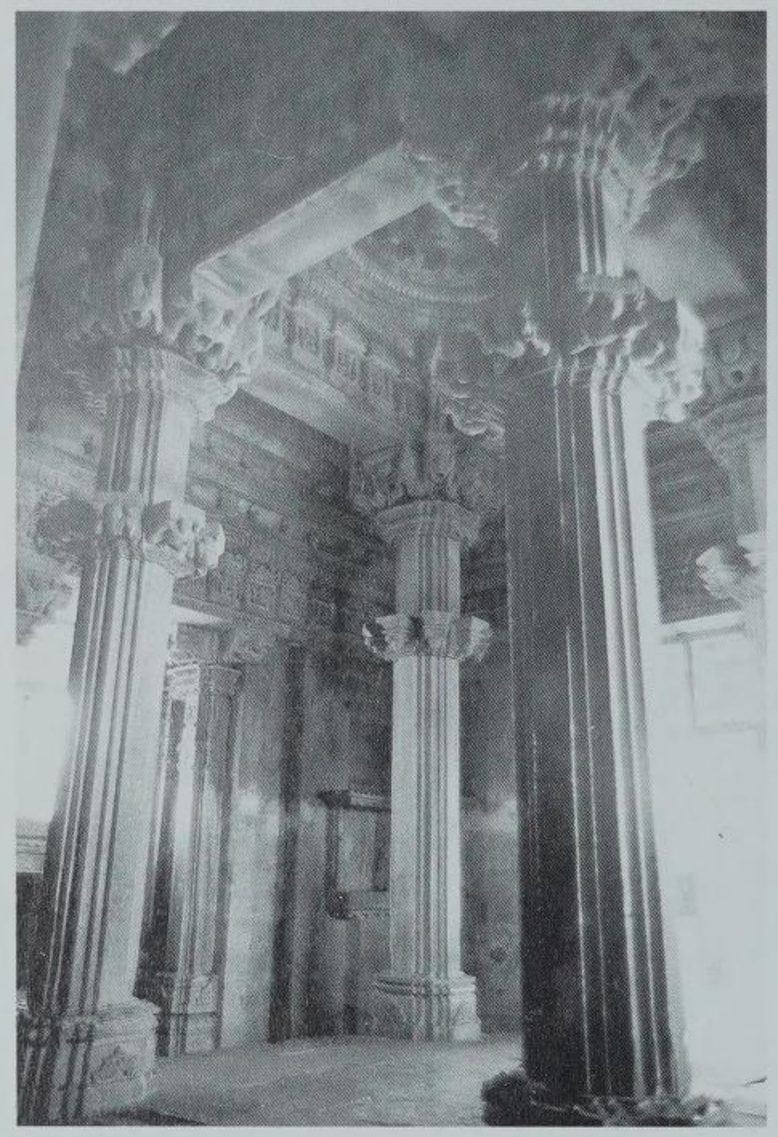
133 (a)

133 (b)

133. Khajuraho temple exteriors:
(a) Lakshmana; **(b)** Vishvanatha;
(c) Khandariya.



133 (c)



134 (a)

134 (b)

134 (c)

capitals formed of grotesque brackets bearing *apsaras* and other *shakti* symbols. Ceilings are stunning in their variety and sanctuary portals, usually with seven jambs and still basically architectonic, are overwhelmed with exuberant figure sculpture.

The Phamsanas of the Lakshmana's halls are clearly descended from Pratihara precedents like Baroli: progressively higher pediments step back over all the balconies and the gable over the vestibule is a taller, more elaborate variation on the same theme. The *shikhara*, like the earliest of the Sekhari form, has only two levels of minor spirelets and one major one to each projection. The Phamsanas of the Vishvanatha's halls are more complex than before, their slabs breaking forward over the projections below with gables of varied miniature shrine forms on the balconies and miniature *shikharas* on the corners. The *shikhara* itself is hardly a more complex Sekhari composition than its earlier prototype, the proliferation of forms in the vestibule gable notwithstanding, but the build-up of the series of masses from the portico to their climax in it is much more resoundingly orchestrated. In this the Vishvantha set a crucial precedent for the Khandariya but the superstructure over each of the elements there is far more complex: the slabs of its Phamsanas have given way entirely to miniature shrine forms, the *shikhara* is unprecedentedly tall and slender, with no less than four half-spires before each of its central projections. The progression in the masses to their climax, the contrast between solid and void, the tension between horizontal and vertical, resolved in the monumental but elegant composition of the Khandariya's *shikhara* through the agency of small-scale but comprehensible forms, reflecting the whole of which they are parts, is one of the supreme achievements of Indian architecture.

Either side of Chandella domains former feudatories of the Pratiharas carved out kingdoms hardly inferior to the Chandellas' own – the Kachchhapaghathas centred on Gwalior and the Kalachuris further east. The influence of the Chandellas is particularly apparent in the Kalachuris' greatest surviving temple, the Virateshvara at Sohagpur. Of the Kachchhapaghathas' most outstanding works – or rather remaining fragments, for like the Solankis their flank was exposed to the full force of Islamic invasion – the twin Vaishnavite temples at Gwalior known as the Sas-bahu, built late in the 11th century, may be singled out.

The larger of these has an immense two-storey Samvarana-roofed pavilion comparable with the greatest of Solanki works, with two-storey porticos and a three-storey twelve-sided central space defined by massive rectangular pillars and pilasters. The smaller is an open pavilion clearly related to the balconies and portico of Khajuraho but with lower,

134. Khajuraho temple interiors: **(a)** Khandariya, hall; **(b)** Lakshmana, sanctuary portal and Vishnu Chaturbhuja; **(c)** Vishvanatha, ambulatory.

135. Gwalior, Sas-Bahu.

136. Udayapur, Udayeshvara Temple: **(a)** from south; **(b)** detail of *mulaprasada*.

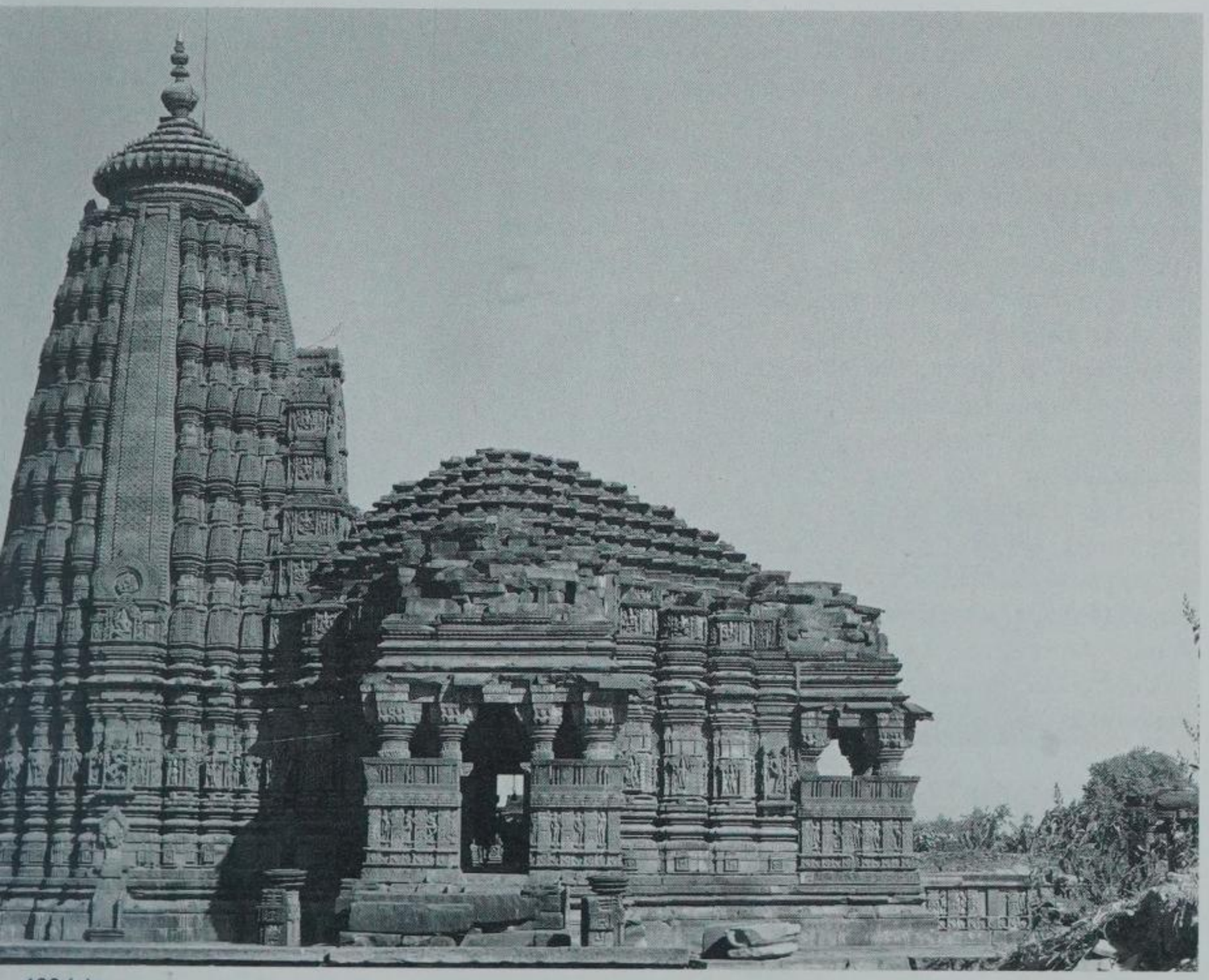
135

simpler parapets that mask little of its Samvarana roof. From both the *shikharas* have disappeared but they doubtless followed the Sekhari form of such earlier Kachchhapaghatha works as the Kakanmadh at Suhania.[40]

The Paramaras and Their Neighbours

The Paramaras, established in the northern Deccani domain of Malwa and expanding to the borders of Rajasthan, were amongst the more important heirs to the Pratiharas but were also exposed to exotic influence from the south. The distinctive Bhumija style, which they were to favour, appears early in the period of their predominance but the earliest securely dated example, one of the supreme masterpieces of the type, is the Nilakantha or Udayeshvara at Udayapur of the mid-11th century king Udayaditya.[41]

Standing on a platform facing east and surrounded by seven subsidiary shrines, the Udayeshvara has a *mulaprasada* with seven bays to each side but the projections, treated as piers bearing various *torana* aedicules, radiate like the points of a star within a circle. Aligned on the principal axis are a vestibule, a nine-square closed hall expanded to form a cross with three porches, and a detached pavilion. The socle, with dado, is comparable to the fully developed



136 (a)

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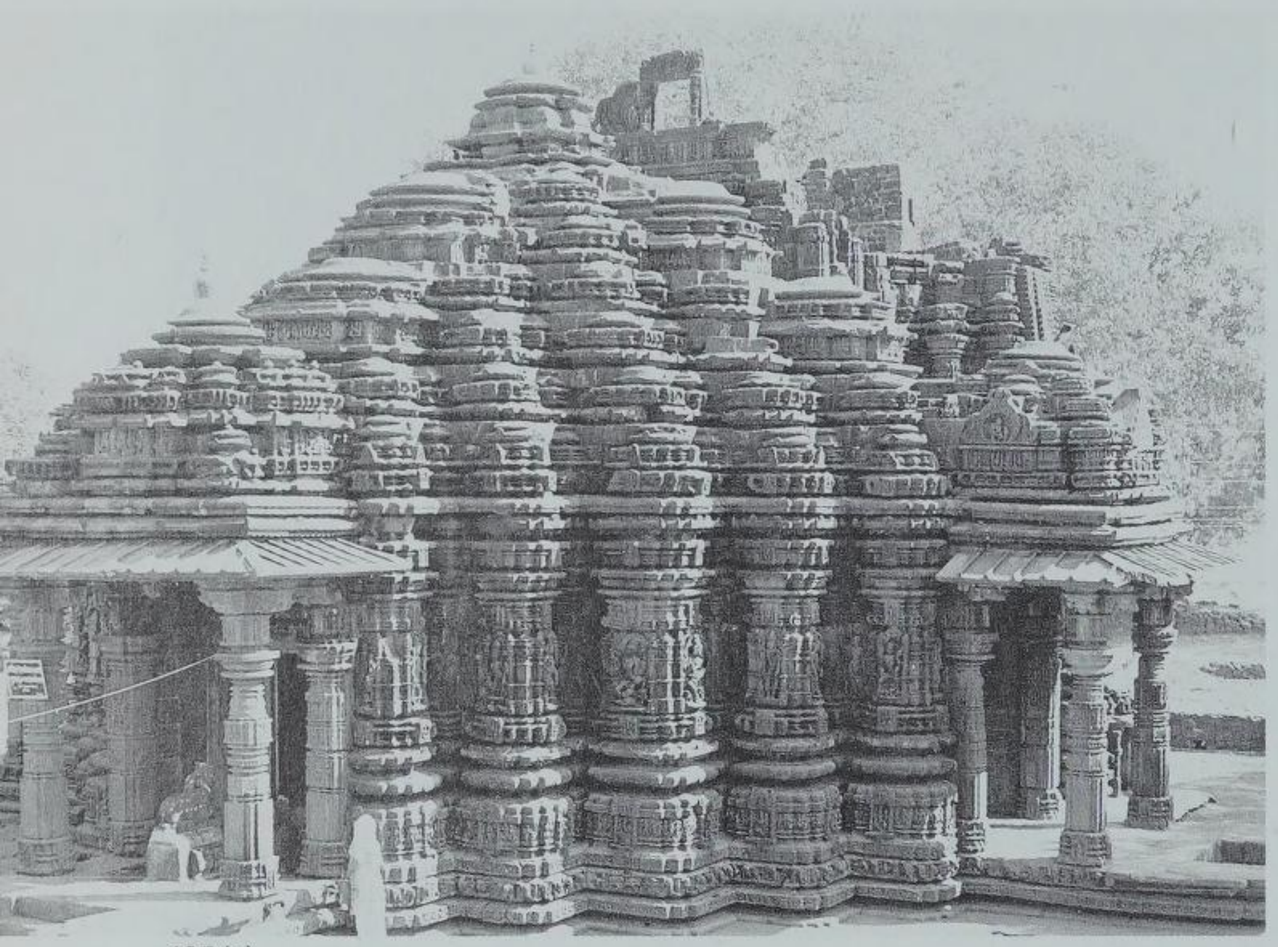
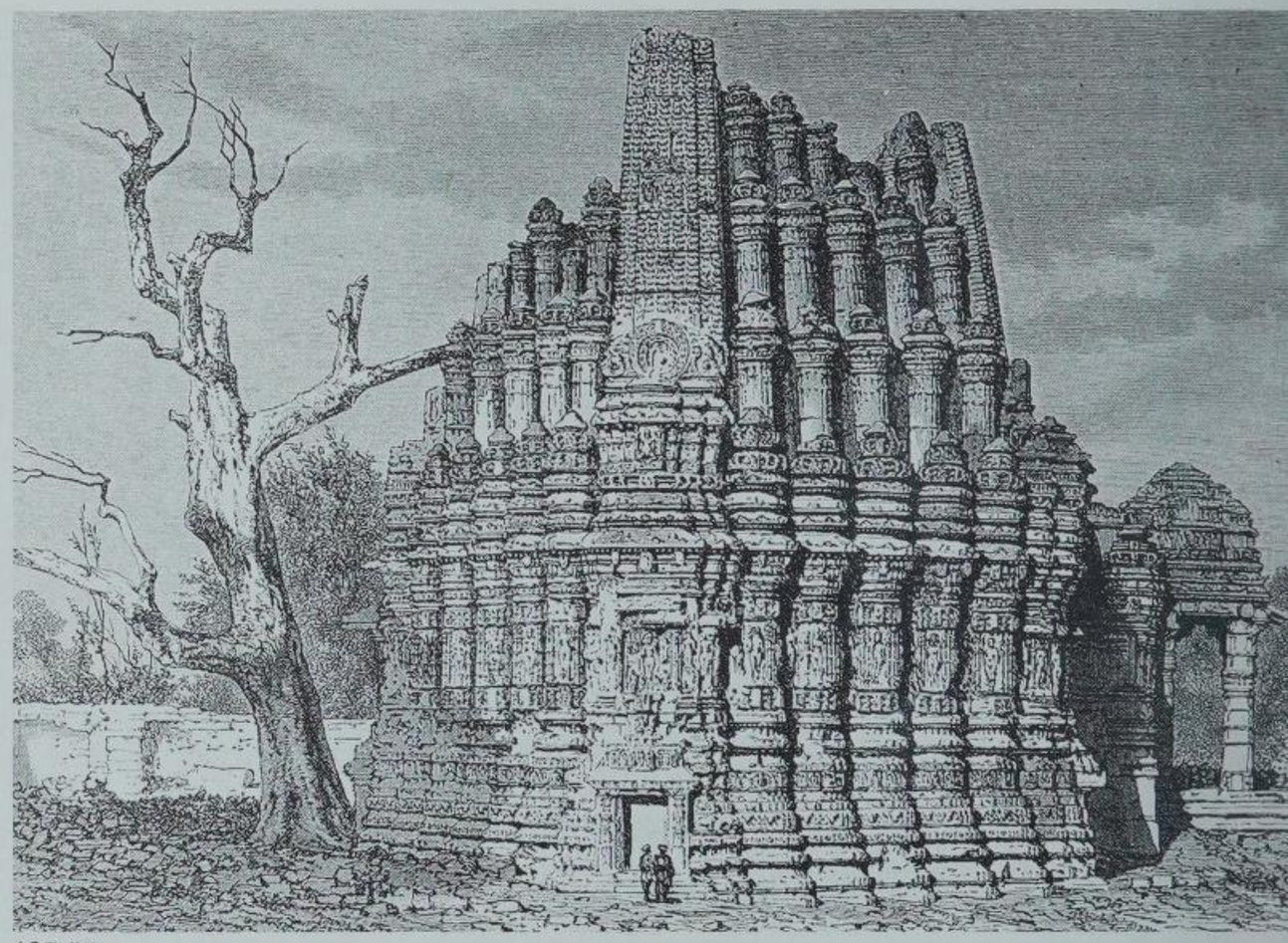


137 (a)



137 (b)

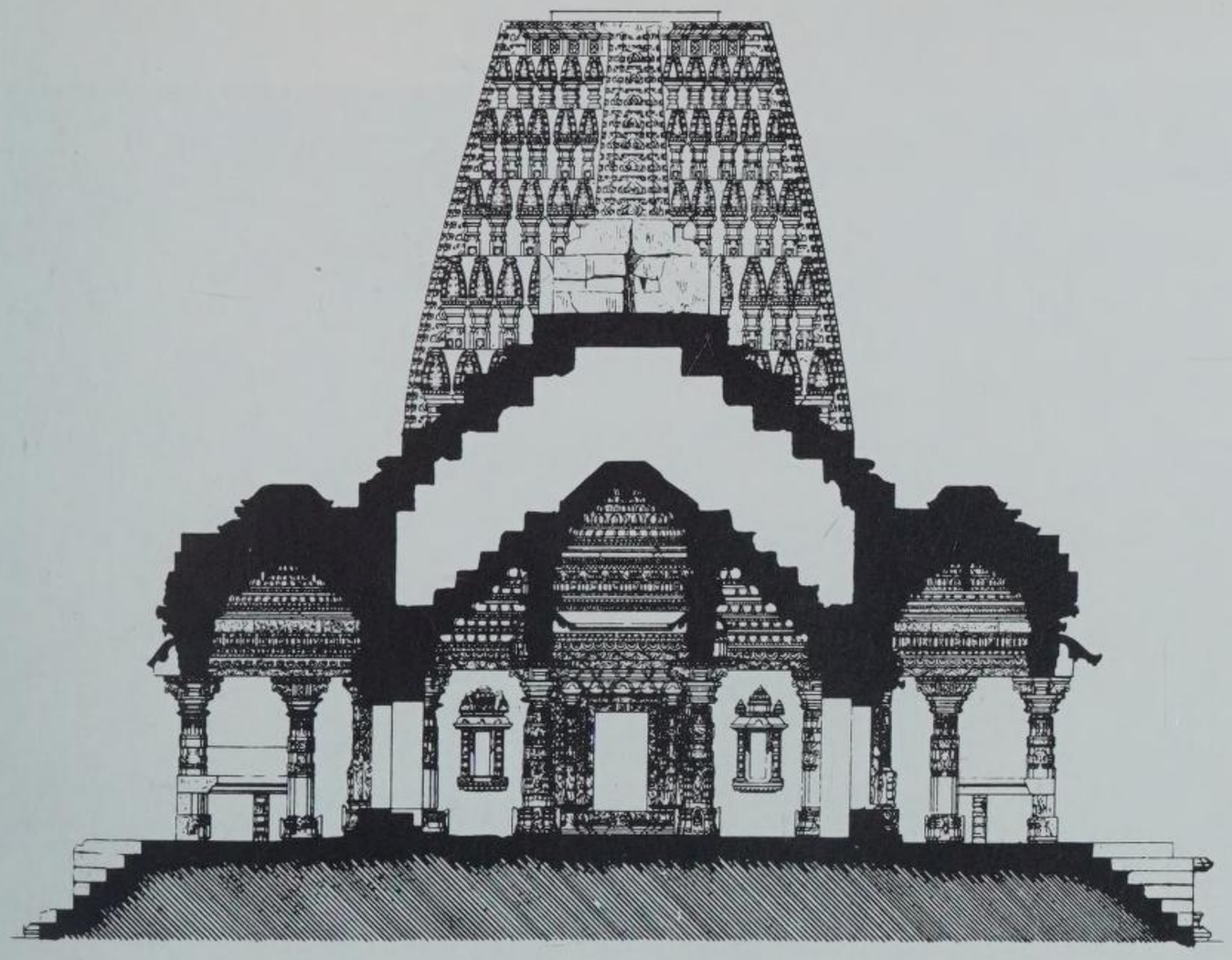
137. Ambarnath, Ambaranatha Temple: **(a)** from west; **(b)** from east.

type found on contemporary works in west and central India, but the decorative details are idiosyncratic. Above the entablature, relieved by an elegant *chadya*, the seven-storey 13(b) *shikhara* has five vertical rows of miniature *shikharas* on pillars between delicately incised bands of meshed miniature niches which rise from extremely elegant dormers over the *ghana-dvaras* and the magnificent *kirttimukha* vestibule gable. The roof of the hall is a variant on the Samvarana form, by now familiar in Gujarat. The pillars are multi-faceted with extremely elaborate niches on the principal facets and grotesque brackets superimposed over multiple rings; the pillars above the *vedika* of the porticos are notably short but room is found even here for great elaboration. There are triple-jamb portals to the hall but the sanctuary portal has five bands including an architectonic one with spiral scrolls and a lintel of niches assimilated to the *prasada* motif.

Due to dynastic ties, perhaps, Maharashtra preferred the Bhumija mode at the same time as its most prominent 113(f) manifestation in Malwa. The Ambaranatha Temple at Ambarnath near Bombay is the Udayeshvara's superb contemporary. There are important differences however. In the first place the Ambaranatha *mulaprasada* and closed hall are commensurate squares aligned orthogonally but as their corners are cut back to form equilateral projections repeated for each porch, they appear to be disposed diagonally in plan. Secondly, apart from the absence of quadrant curves in the superimposed tiers of the *shikhara*'s intermediate zones, the piers are more significant than the highly unorthodox miniature shrines they support. The hall's Samvarana reflects the influence of Gujarat as does the base with elephant frieze, but there is a *kumuda* rather than a *karnaka*. Particularly sumptuous faceted columns define the central space of the hall with its dazzling ceiling, but various square forms are used elsewhere and the portal jambs reveal some Chalukyan influence, though the lintel is of the Gujarati type.[42]

In its synthesis of elements from north and south the Ambaranatha temple was prophetic of the Deccani style which was to be fostered by the Yadavas, who succeeded the Rashtrakutas in the heart of their domains around Aurangabad, and progressively expanded their holdings in the north Deccan at the expense of the Later Chalukyas. Active from the second half of the 11th century in a region that was virtually a cultural province of Malwa, their extensive corpus may be represented by the Gondeshvara of their capital, Sinnar.

With a faceted *mulaprasada* bearing seven ranges of miniature *shikharas* on piers but diagonally aligned with a nine-square closed hall, the Sinnar work reflects the influence of both Udayapur and Ambarnath. Star-shaped *mulaprasadas* appear at other Yadava sites – Lonar for example, where the hall of the Daitya Sudama is an enlarged variation on the 113(g) theme of the *mulaprasada*. The Malwan precedent for closed halls, followed at Sinnar, was perhaps the Yadava norm but the particularly sumptuous fifty-columned open one at Anwa, with a central space defined by twelve great faceted columns and covered by a superb concentric ceiling, bears comparison with the one at Modhera. In general, as at Sinnar, Gujarati Orders are displaced by an essentially Deccani one, mainly square in section with recessed octagonal or circular bands



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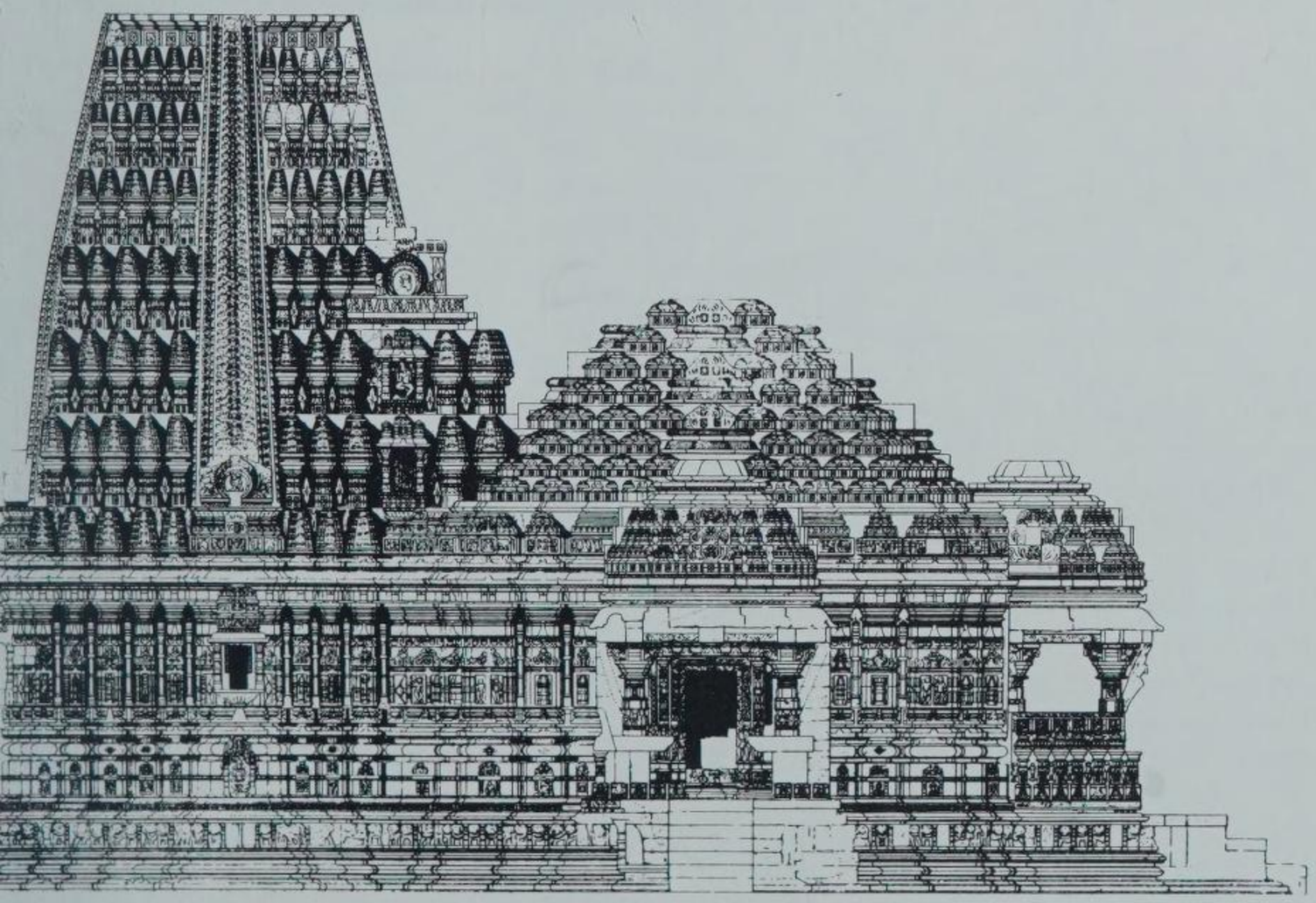


138. Sinnar, Gondeshvara Temple: section and elevation .

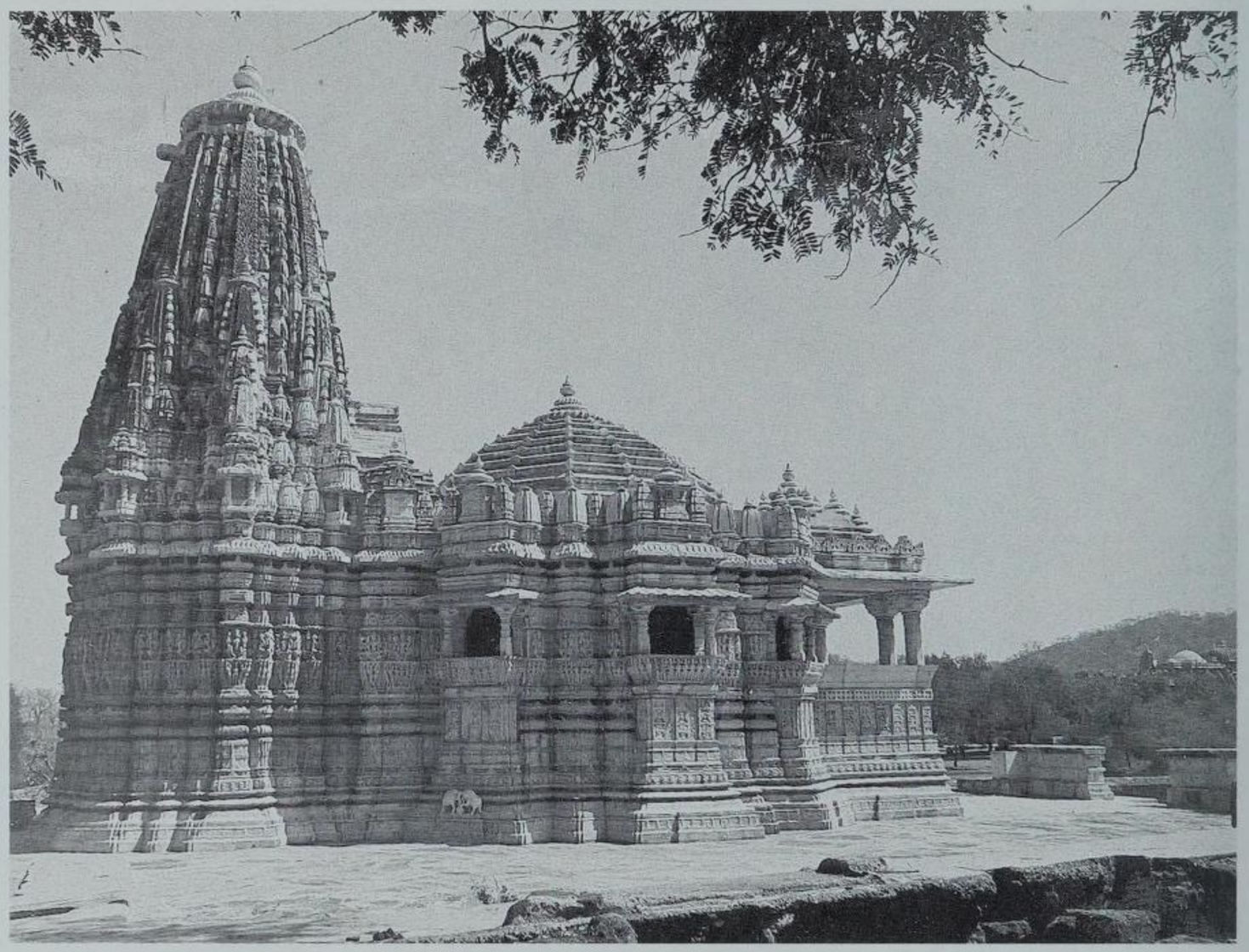
139. Khajuraho, Duladeo Temple: from west.

and sometimes with a *purana-kalasha* interpolated well below the graded rings and *padmas* which form the capital. The Gondeshvara has a single frieze but the most ambitious Yadava temples have a full Solanki socle, the much-mutilated but once-splendid Naganatha at Aundha incorporating no fewer than four friezes. After the Gujarati pattern, one register of iconic sculpture is the norm but the Gondeshvara is unusual in its class in having applied pillars and other abstract motifs instead of figural reliefs in most of its aedicules.[43]

The Bhumija mode rapidly spread east and west, reaching the Kalachuris by the end of the 11th century and being taken up even by the later Chandellas for their last notable work at Khajuraho, the Duladeo. Here miniature Sekhari *shikharas* are superimposed over subsidiary equilateral projections aligned on the diagonals between the cardinal ones. This experiment in Sekhari/Bhumija cross-fertilization was not a happy one, however: without balconies, the orthogonals could not compete with the diagonals and seem to provide inadequate support for the still weighty half-*shikharas*. The Chandellas' marked ability to effect a monumental balance between whole and parts had been lost.[44]

Bhumija is rare in Gujarat but in Rajasthan it was to be an important ingredient of the hybrid style which the Rajasthanis forged between the 12th and 15th centuries from components provided by all the major post-Pratihara schools. The Devi shrine of the fine Bhumija Shiva Temple at Ramgarh is an early Latina/Bhumija hybrid, the Surya Temple at Ranakpur a particularly fine late Sekhari/Bhumija one. The former has bands of enmeshed niches over both principal and

intermediate projections, separated by pillars bearing two distinct types of miniature *shikharas*. The Ranakpur Surya Temple has a unique *mulaprasada* with eight principal projections separated by triads of minor ones. Above, miniature *shikharas* half mask the mesh bands in the Sekhari manner in contrast to the tiers of still smaller ones which fill the adjoining zones in the Bhumija manner. Though such cross-fertilization is a rare thing in itself, it is nonetheless characteristic of the prolix inventiveness of the Rajasthani imagination.[45]



140. Ranakpur, Surya Temple: from south-west.

Orissa

Over the course of some four centuries of architectural development in the lands now incorporated in Orissa – Tosala with Utkala to its north, Kongoda and Kalinga – kings lay little claim to prowess as builders like, for instance, the Chalukyas, Pallavas or Cholas. This inevitably means few firm dates and the construction of a chronology for Orissan temples relies largely on evidence deduced from the forms themselves and the nature of their embellishment. Thus, a progressive development may be discerned in the relationship between *mulaprasada* and hall, common to almost all important examples, especially their distinction in mass but assimilation in articulation. A clear line of development can be discerned too in the curve of the Latina *shikhara*. The elaboration of the socle is also crucial: first a simple footing is surmounted by *kumbha* and *kapota*, then the *kumbha* becomes a *purna-kalasha* by the addition of trailing foliage from the corners of the *kapota* and the footing is given a cyma-recta profile; then the latter becomes a *padma*, the *kapota* becomes a second rim to a waisted *kalasha*, ultimately surmounted by another *padma*. While interiors remained plain, except for the occasional carved ceiling and niches with icons in *garbha-grihas*, manifestations of the deity and *shakti* imagery proliferated on exteriors in line with developments elsewhere. Complementing this evidence for dating is that provided by the analysis of iconography, decorative detail and script. To supplement this, moreover, there is a considerable amount of written material, in particular copies of much earlier architectural treatises detailing the various types of temple which emerged in Orissa in the last half of the first millennium A.D.[46]

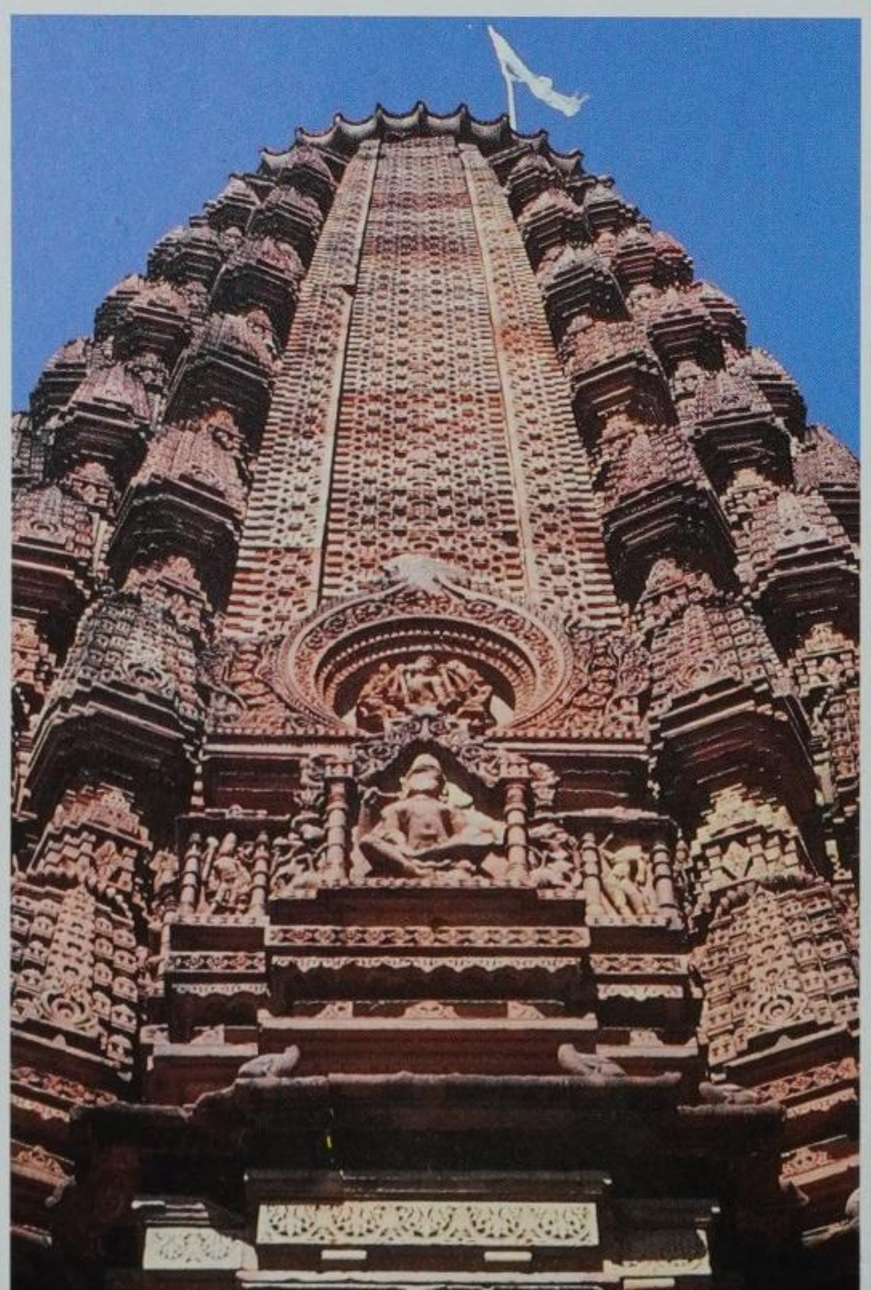
Of the two main types identified by the earliest recorded Orissan treatises, the one in which a single central projection emerges from the sides of a square *mulaprasada*, in no developed relationship with the superstructure, is common in the temples which stylistic considerations place among the earliest surviving examples – in particular the Bhubaneshwar Parashurameshvara. The introduction of the five-bay type, with graded projections through three planes from base to summit, seems to have been an 8th-century development which the Sisireshvara and Vaital Deul at Bhubaneshwar approximate. The texts give no hard and fast rules for the treatment of the hall. Hand in hand with enrichment and integration of the elements of the *mulaprasada*, however, the flat-roofed rectangular hall of the Parashurameshvara type – incoherently articulated and juxtaposed to the *mulaprasada* at the expense of the latter's embellishment – is transformed into a monumental entity assimilated to the *mulaprasada* in articulation but distinguished by an elegantly curved pyramid of superimposed slabs rising to a massive finial.[47]

7(c); 74; 113(h)

The Sisireshvara, like the nearby Markandeshvara, is a much more vibrant composition than its predecessors. Vigorous variation of plane approximating a five-bay scheme distinguishes the corners and two distinct stages in the central projection of the *mulaprasada*. The junction between *mulaprasada* and hall is more accomplished with a distinct vestibule zone separating the two clearly defined elements. Over the vestibule the *kirttimukha* gable is now a weightier composition than the pediments over the aedicules in the other three sides, though these now project more than before. The regular articulation of the hall is more sophisticated, clearly based on the scheme of the *mulaprasada* and the central three bays are assimilated by grills though there is actually a window only in the middle. The kapota is surmounted by stepped slabs and foliage trails from it over the *kumbha*, as in a *purna-kalasha*. The figure sculpture is

Plate 12. Jagat, Ambika Matha Temple: detail of *vimana*.

13 (a)



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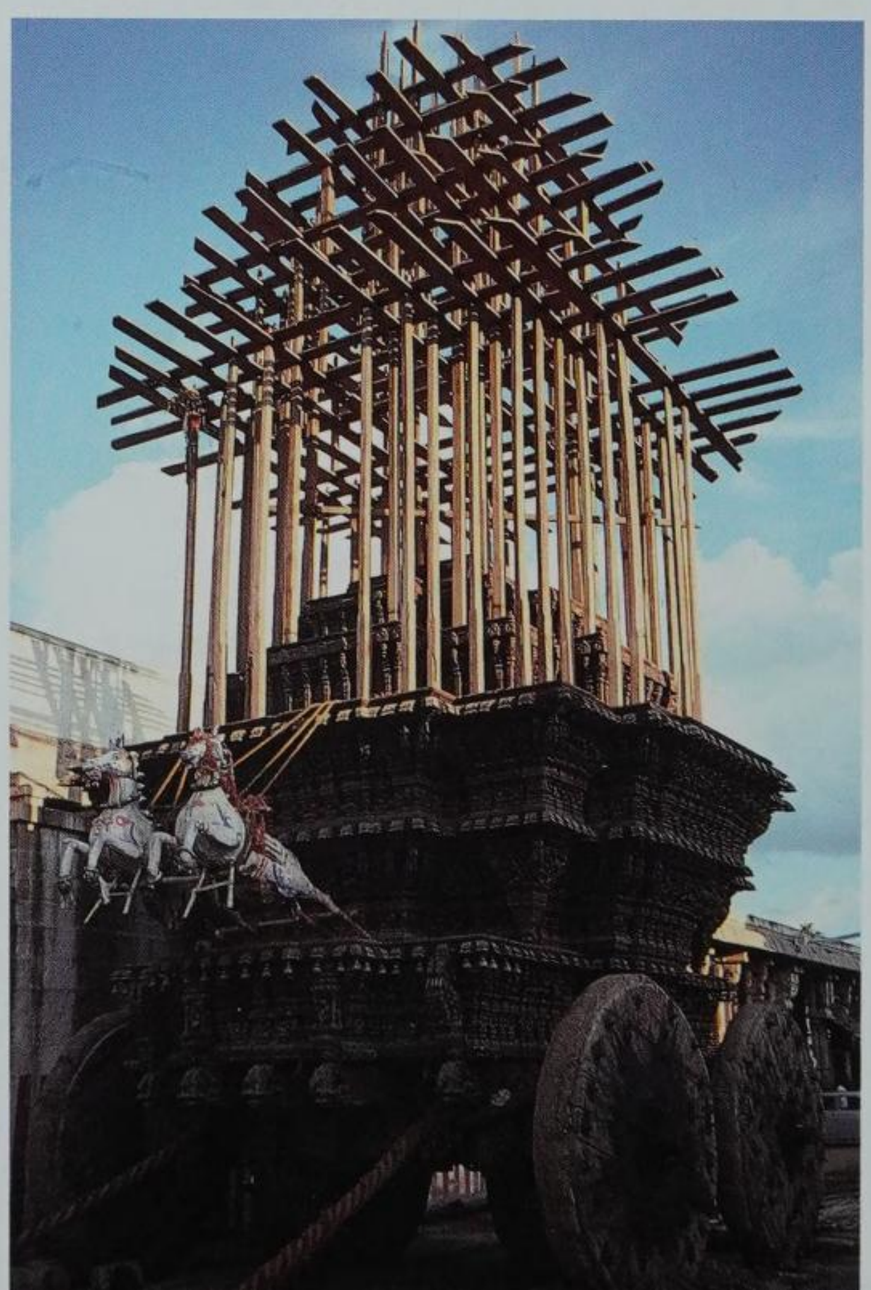


13 (c)

Plate 13. **(a)** Khajuraho, Khandariya Temple from south-east; **(b)** Udayapur, Udayeshvara Temple: detail of *shikhara*; **(c)** Bhubaneshwar, temple car (*ratha*).

14 ▷

Plate 14. Konarak, Surya Temple: detail of base with *'ratha'* wheel.

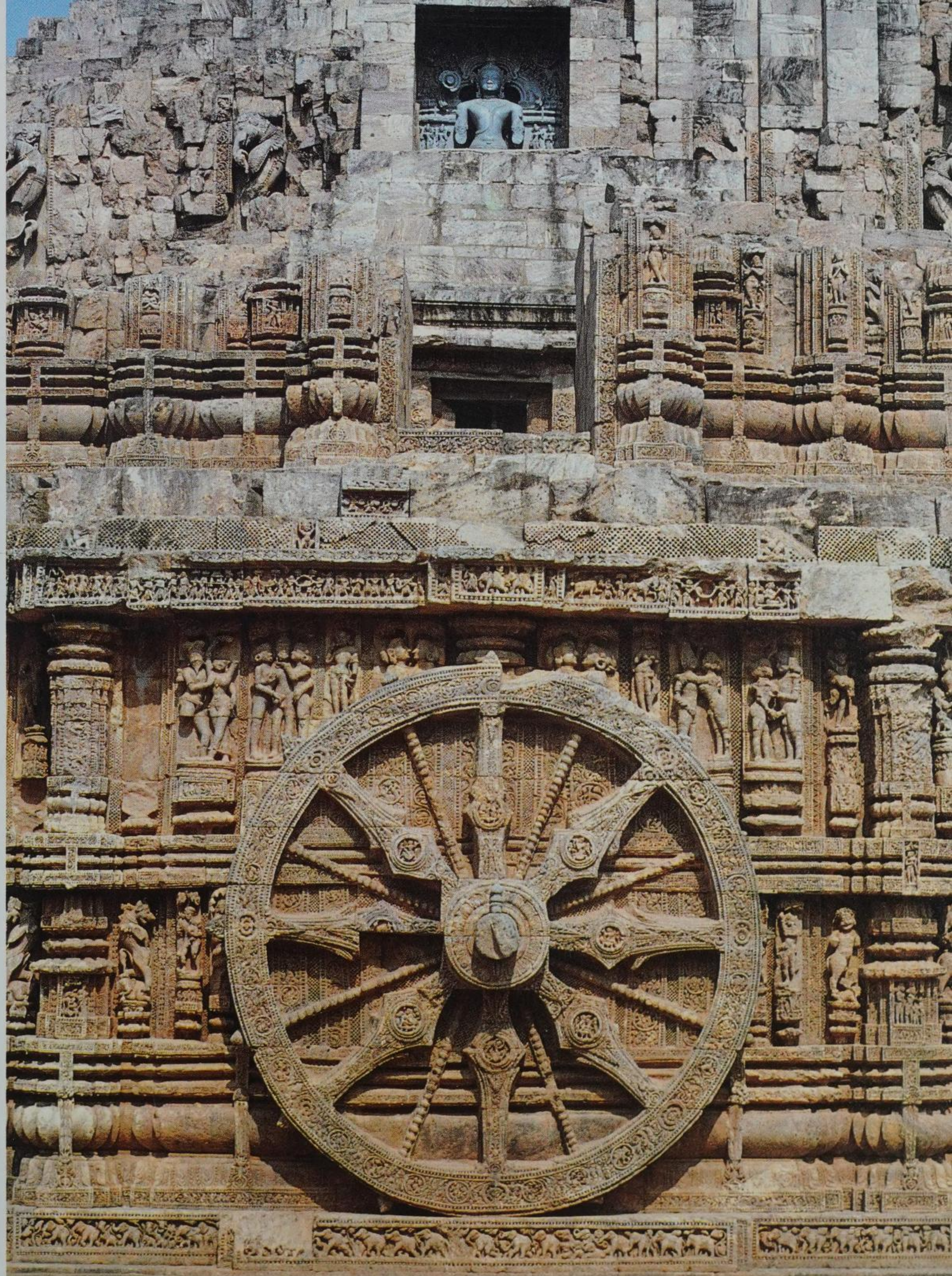


Plate 15. **(a)** Chaurasi, Varaha Temple from south-west; **(b)** Lakkundi, Kashivishveshvara Temple from south-west; **(c)** Halebid, Hoysaleshvara Temple from south.

15 (a), (b)

15 (c)

16 (a)

Plate 16. (a) Ranakpur, Dharana-Vihara from south-west; **(b)** Chittor, Salindheshvara Temple: great hall before sanctum.

Plate 17 (overleaf). Chittor fort, ramparts from south-west with Tower of Victory background.

16 (b)

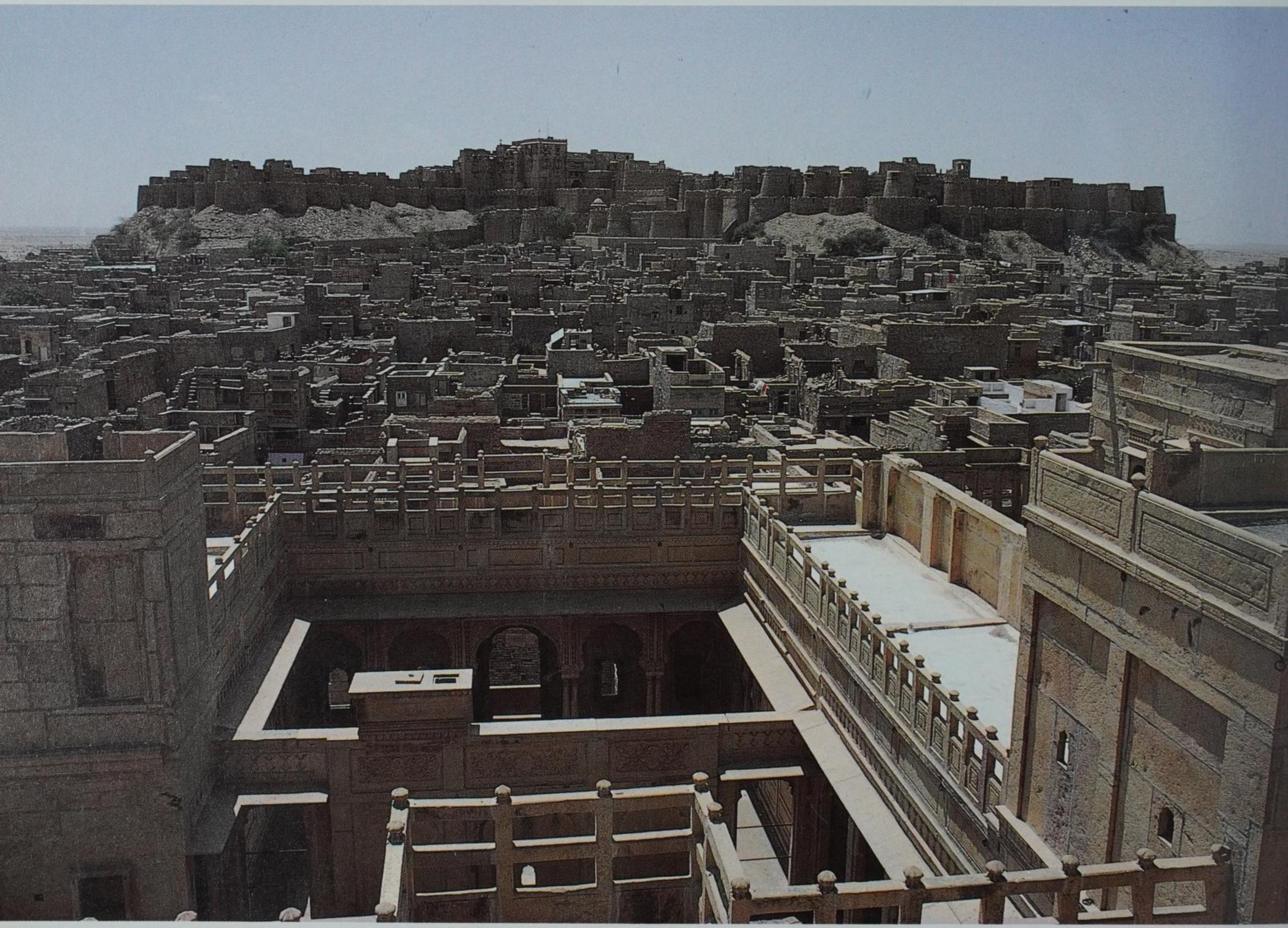


Plate 18. Jaisalmer, town and fort from north.

Plate 19. (a) Jaisalmer fort: main gate and serpentine approach; **(b)** Bikaner fort: main gate.

19 (a)

19 (b)

Plate 20. **(a)** Jodhpur, fort from east; **(b)** Gingee, fort from Krishnagiri with Kalyana Mahal centre.

Plate 21. **(a)** Gaur, Dhakil Darwaza from south-east; **(b)** Hazrat Pandua, Adina Masjid: detail of brickwork; **(c)** Gaur, earth ramparts from east with Dhakil Darwaza upper left.

20 (a)

20 (b) ▽

1 (a)

1 (b)

1 (c)

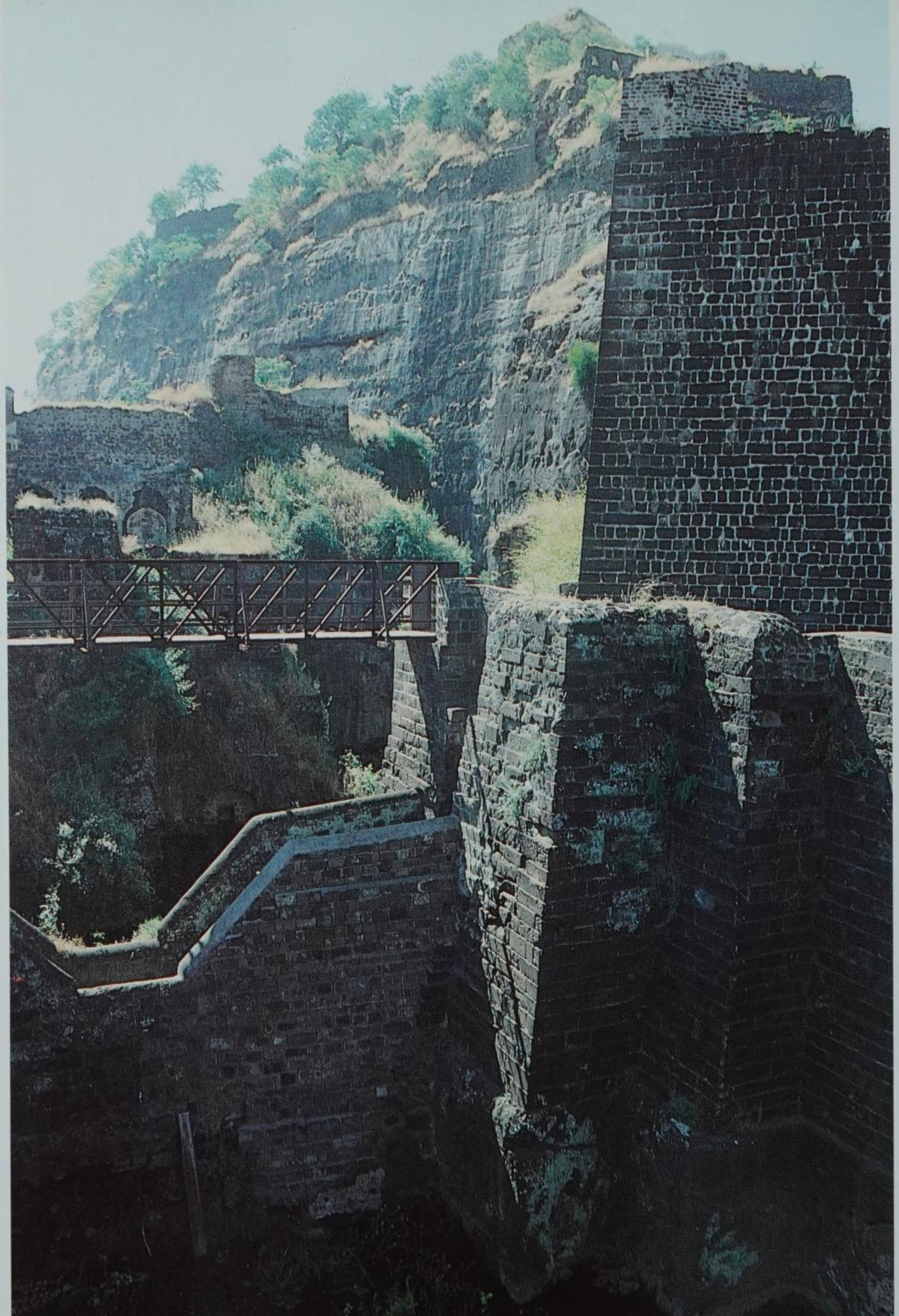
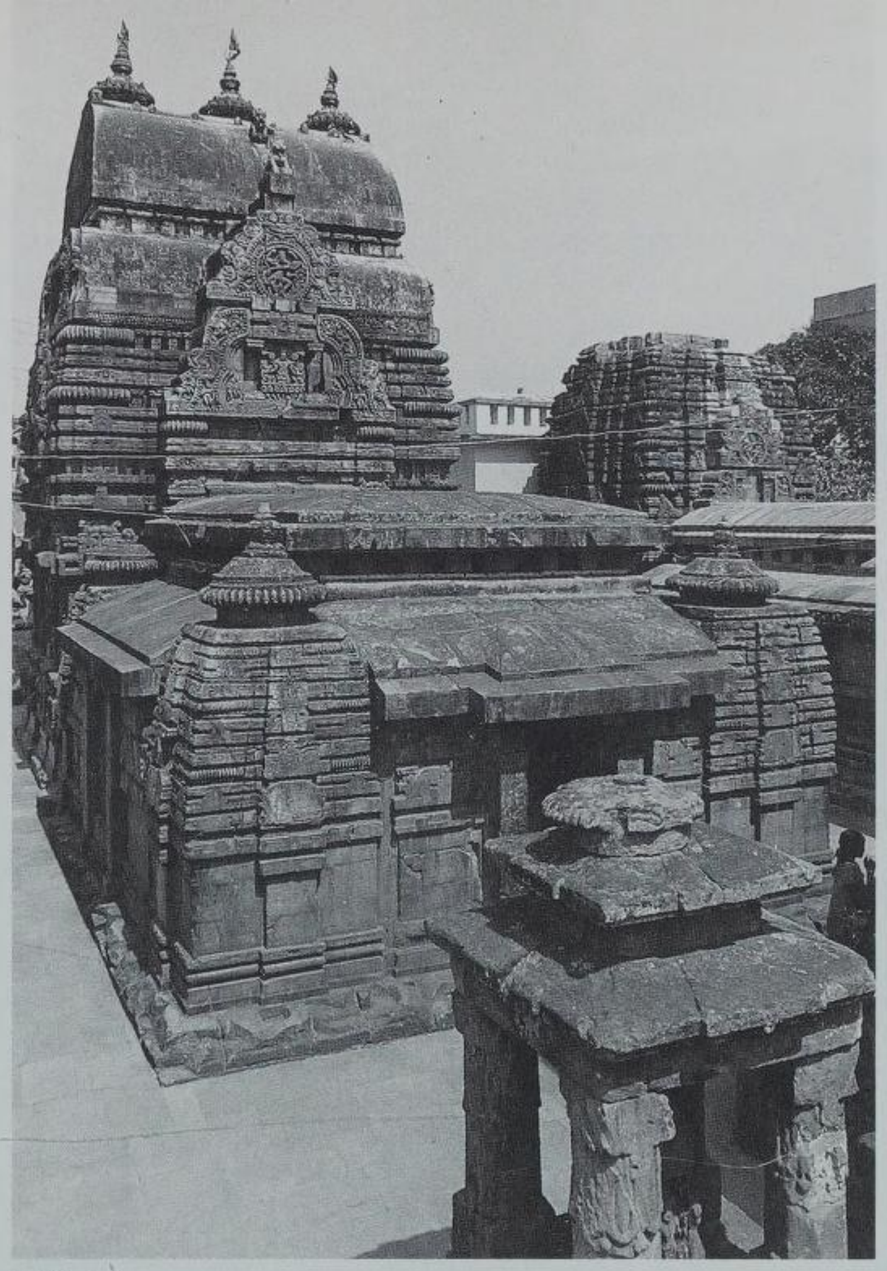


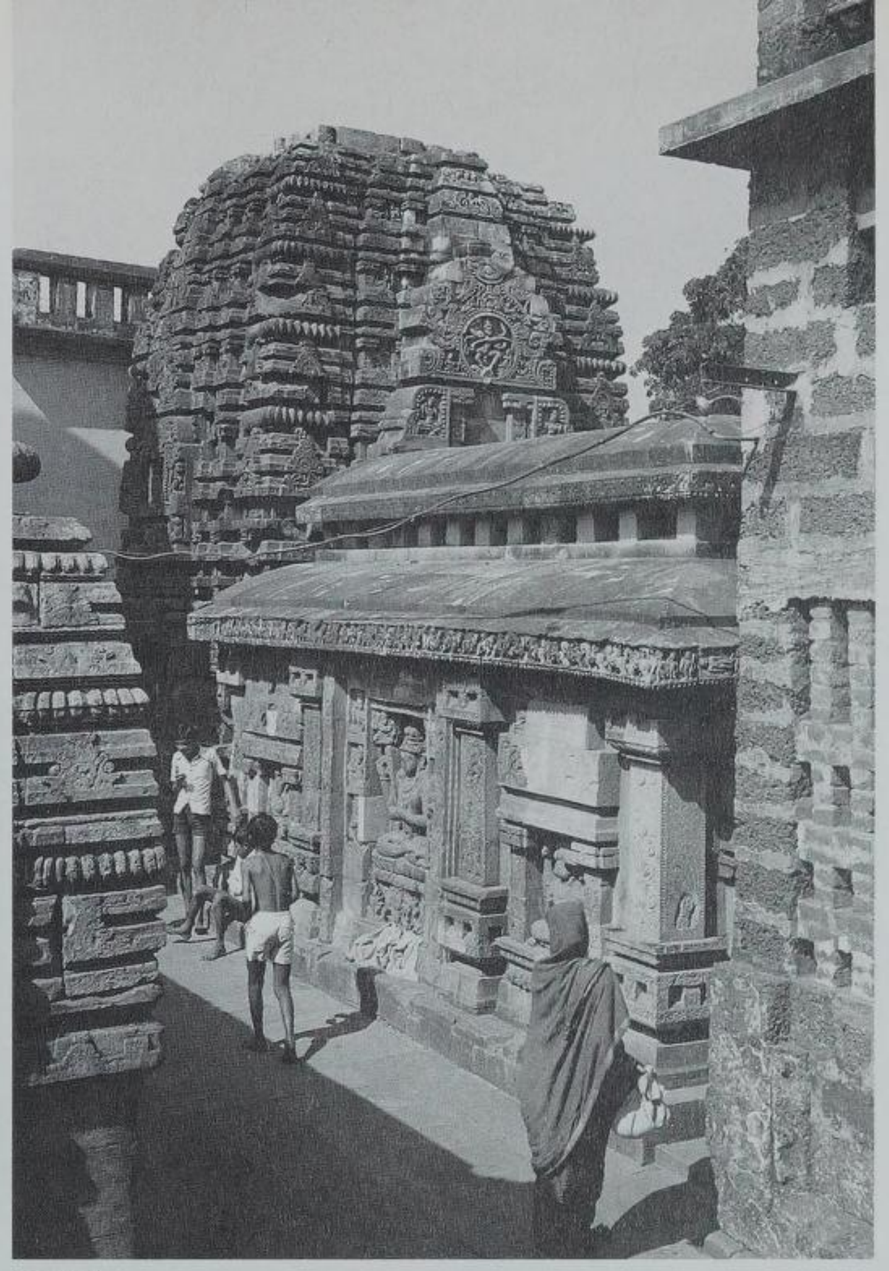
Plate 22. Devagiri (Daulatabad), citadel from east over causeway.

141. Bhubaneshwar, **(a–b)** Vaital Deul from south-east and south-west with neighbouring Sisireshvara **(c)**.



141 (a)

141 (b)



141 (c)

less rigid, with a greater sense of depth in reliefs, more understanding of anatomy, a finer sense of proportion, though foreshortening still remains something of a problem.

Comparable in all respects except its plan is the Vaital Deul, dedicated to the Saptamatrikas and the only significant early example of the rectangular form defined in the treatises. While there are five similar projections from the clearly defined base plane of the wall along the back, the side walls are virtually five-bay compositions with weighty and elaborate aedicules. Except for four miniature square shrines at its corners, which retain even the primitive form of base, the sides of the unfinished hall are also articulated in accordance with a basically five-bay scheme. The *garbha-griha*, separated from the hall by a shallow vestibule, is unique in Orissa for its rich internal embellishment with images associated with Tantric rites, but light reaches it only through the entrance and a low clerestory between the deep *chadya* and the virtually flat roof.[48]

The crowning of the hall with a full stepped pyramid of receding slabs marked it as an entity coexisting with the sanctuary. Moreover, while the assimilation of the two units depended on their common five-bay scheme of articulation, their distinction was asserted by the progressive grading of the projections from their sides to their centres. The outstanding example of the earliest phase of maturity in this style, when these two complementary aims may be said to have been achieved, is the Mukteshvara at Bhubaneshwar – 113(j)
indeed this gem, with its exquisite sculpture, must be considered one of the region's three supreme masterpieces.

The articulation of the Mukteshvara's *mulaprasada* is

142. Bhubaneshwar, Mükteshvara Temple: **(a)** from east; **(b)** hall towards sanctum; **(c)** *torana;* **(d)** detail of hall wall.

142 (a)

142 (b)

142 (c)

142 (d)

143

143. Chaurasi, Varahi Temple: from west.

closely related to the prescriptions of the treatises but the particularly elaborate *shikhara*, in which enmeshed miniature niches play a major part, is unorthodox – though orthodoxy here is in fact rare. The hall, still oblong but cruciform in plan, is the earliest surviving pyramid roofed example of any importance. The slabs, curved in profile and projecting over the porches, pick up the horizontals of the *shikhara*'s storeys. The vestibule gable is consequently suppressed and all four sides have convoluted *kirttimukha* arches, delicately incised with symbolic images, supported by *yakshas*. Over these are Shiva panels on the three outer sides and a lion facing the hall roof. The whole five-bay scheme of the *mulaprasada*, stepping forward in clear projection throughout its height, is expanded for the hall.

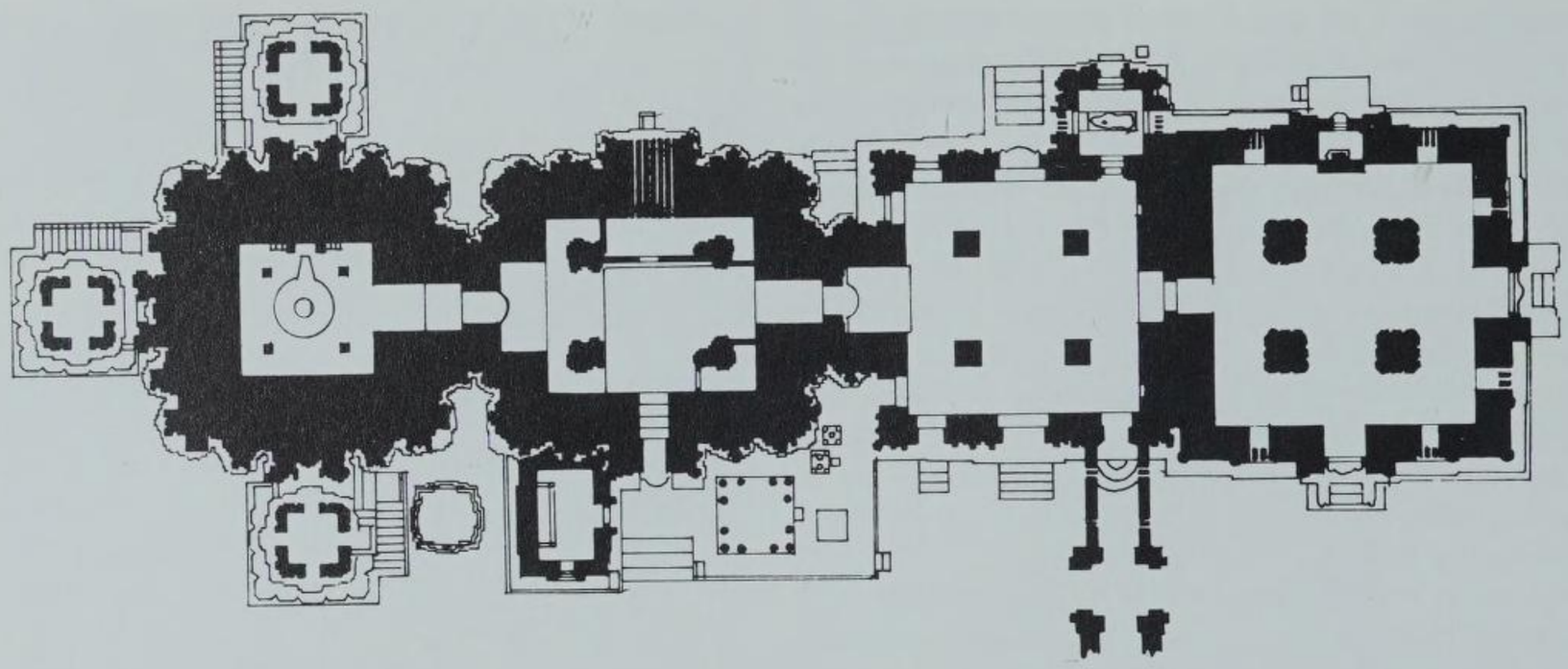
The socle, varied below the various zones, now incorporates a *padma* above the richly incised rim of the elegant *kalasha* which is itself relieved by a continuous strip of foliage. The corner zones are delicately incised piers surmounted by panels with dwarfs and bearing particularly sensual dancers in high relief on their shafts. Miniature *shikharas*, paired for the hall, form aedicules in the intermediate recessions where the base is reduced in height; they are flanked by elaborate pillars entwined with *nagas* over a still further reduced base supplemented with panels of *apsaras*. Piers similar to those of the corners, but bearing tall pediments, frame the *ghana-dvaras* of the *mulaprasada* and the porches of the hall. The interior is unique in its richness, particularly noteworthy being the beautiful octagonal ceiling in diminishing zones with relief panels in the outer compartments and a large central lotus displaying the Saptamatrikas. Equally unique is the *makara torana* with columns incorporating Chalukyan and Pallavan capital elements, standing before the entrance to the west just beyond the low wall which defines the precinct.

15(a) The Varahi Temple at Chaurasi and the Gauri Temple at Bhubaneshwar have much in common with the Mukteshvara. Though rectangular, their *mulaprasadas* have five bays on all sides, stepping forward progressively with the full panoply of the Mukteshvara's forms. The Gauri's hall has a pyramidal roof and its walls are closely related in articulation to those of the *mulaprasada* but the Varahi has a flat roof with clerestory and eaves, and its articulation is only incidentally related to that of the *mulaprasada*. Delicately incised piers, surmounted by *mithuna* panels but without *apsaras* attached to their shafts, relieve both the corner and intermediate zones of the Varahi Temple but the Gauri's closely follow those of the Mukteshvara.[49]

Further advance over the Mukteshvara is represented by the mid-11th century Brahmeshvara. The hall is now square, crowned by a full finial and assimilated to, if slightly differentiated from, the five-bay *mulaprasada*. With gargoyles and miniature shrine forms incorporated in the design of the *shikhara*, greatly enhancing the vitality of the whole, this significant work is clearly related to the second of the three great masterpieces of mature Orissan architecture, the Lingaraja of Bhubaneshwar.[50]

Rising from a plethora of lesser shrines in a vast compound, the majestic *shikhara* of this great work dominates the town. Though there are significant differences in articulation, shared by most later temples, its sculpture and decorative detail is closely enough related to the Brahmeshvara as to suggest that the same artists worked on both. Like the Brahmeshvara, the base is of the five-tiered *kalasha* variety inherited from the Mukteshvara; like the Brahmeshvara, again, the walls of the five-bay *mulaprasada* have two registers and miniature slab-roofed shrine-forms provide niches for the splendid icons in the outer zones. Similar motifs are carried over to the expanded five-bay articulation of the hall and the Lingaraja has subtly distinguished registers here too.

The curve of the Lingaraja *shikhara* is echoed by the Brahmeshvara and heraldic lions project prominently from both works. The Brahmeshvara has miniature *shikharas* applied to the lowest zone of the *shikhara*, increasing in size from the sides to the centre, and superimposed miniature shrine forms reach to the top of the intermediate zone, greatly enhancing the vitality of the whole. The Lingraja has miniature *shikharas* only over the vestibule and in the



144 (a)

144 (b)

144. Bhubaneshwar, Lingaraja: **(a)** plan (1:500); **(b)** from north.

intermediate zones where they are superimposed all the way from the first storey to the last, enlivening the great bulk most effectively. Elaborate *kirttimukha* gables, like those of the Mukteshvara, relieve the centres of the three outer faces above the *ghana-dvaras*. The progressively diminishing slabs of the Lingraja's hall roof, culminating in a double-lotus finial, are interrupted by the recessed vertical of a gallery but the lower slab interferes with the spring of the *shikhara*. This awkward junction is avoided at the Brahmeshvara, yet the two main elements of the Lingaraja do not appear to have been built at different times – unlike the subsidiary shrines at the cardinals of the *mulaprasada* and the pavilions for ritual dancing and feasting beyond it.

The description of the curve in the profile of the *shikhara*

was the subject of considerable attention in the treatises and the Lingaraja architects effected the canonical balance between strength and grace. The miniature shrine form which made such a vital contribution here was to be the key to the final phase of development in Orissan architecture but
113(i) the Rajarani at Bhubaneshwar is an exceptional example of flirtation with the Sekhari mode. The monolithic block is subdivided vertically over a plan approximating the star shapes of Malwa and the Deccan, transforming it into a vibrant accumulation of miniature shrines. This at once provides closing elements for the main facade composition when viewed orthogonally and centralizing elements for subsidiary facade compositions when viewed diagonally. The Rajarani is also noted for the superb quality of its sculpture which is so closely related to the best work of the Lingaraja that its date is not usually thought to be much later – though its hall, starkly contrasting in its simplicity with the rich *mulaprasada*, is comparable with such austere works as the apparently later Kedareshvara and Siddheshvara.

Neither the Bhumija nor the Sekhari mode was to play a significant role in the latest Orissan developments but under the Gangas, towards the end of the 12th century, the vigorously indented, still basically five-bay Latina scheme, was expanded by the addition of an extra intermediate zone. With increase in plasticity of mass, however, went decrease in internal volume. Profuse ornament, much with intricate and highly stylized detail comparable to ivory or fine metal work but not well calculated to enhance monumentality in stone structures, is typical of Ganga work at Bhubaneshwar. However, the Ananta-Vasudeva apart, the greatest works of the Gangas were not built at Bhubaneshwar. The important Jagannatha at Puri, closely modelled on the Lingaraja, offers little that was new but the stupendous Surya temple built at Konarak by Narasimha-deva Ganga (c.1238-64) must be counted as the third of the masterpieces of mature Orissan architecture, though it too was hardly innovative.[51]

The site at Konarak was a Somavamshi one associated with Tantric cults and one of the two subsidiary temples in the vast compound was an original Somavamshi foundation. The great central temple seems to have sustained the Tantric connection but it was primarily conceived as a colossal car, 14
the chariot of Surya, with twelve pairs of wheels – one for each month – represented on its high platform and the horses of the sun prancing beside the steps which lead up to

145 (a)

145 (b)

145. Bhubaneshwar, **(a-b)** Brahmeshvara and Rajarani Temples: *muaprasadas*.

the main entrance in the east. It conformed to the five-bay tradition but, like other Ganga works, it had attached subsidiary shrines. There was a splendid free-standing pavilion, in addition to the hall, with a ceremonial pillar between them. Behind the great wheels which punctuate them, the sides of the platform conform in articulation to the structures above and these in turn followed the double-register scheme of the Lingaraja. The platform's socle is of the five-tiered *kalasha* variety, unparalleled in richness, and slabs beneath it bear a marvellous series of friezes depicting secular subjects – hunting, military, trade – in which the wonderfully observed elephants are particularly noteworthy. The lower register is subdivided by projecting miniature shrines at each change of plane, and further subdivided by rich pilasters, each field alive with the *shardulas, nagas, apsaras* and sexually explicit *mithunas* for which these remains are so celebrated. The upper zone follows the same general scheme but is taller and has pilasters of a *padma* type instead of miniature shrines and complex narrative reliefs in addition to *shakti* imagery. The entabulature incorporates a frieze depicting a variety of kingly pursuits.

146. Konarak, Surya Temple: **(a–b)** from the east in the mid-19th century and from the west in the late-20th century.

146 (a)

146 (b)

Little survives above the lower register of the *mulaprasada* and its subsidiary shrines – other than three superb images of Surya, the rich eight-jamb sanctuary portal and the sanctuary platform with reliefs representing the king's progress to the consecration of the temple. However, early-19th century records indicate that the *shikhara* had miniature shrines in its intermediate zones, like that of the Lingaraja, and the remains of the wall are closely related to the corresponding elements of the hall. Square and of five bays, the latter had porticos preceded by steps to each side, the main one to the east leading from the pavilion. The assertive horizontals of socle, string-course and entablature offset the verticals in the corner and intermediate bays with richly diversified aedicules superimposed in the registers and splendid *vyalas*, *shardulas* and mithunas in the recessions. A variation of this scheme was carried over to the sides of the porticos but their outer faces were conceived as *toranas* forming rich eight-jamb portals.

The sequence of slabs of the hall roof is interrupted by two recessed storeys. Superb dancers orchestrating the progression of the walls are doubled by free-standing female musicians at the salient points and eight lions support the lotiform finial with apparent ease, as it were containing the forces set up below. The architectural importance of these sculptures in asserting the verticals against the horizontals of the roof slabs with a vitality rivalling that of the Lingaraja would be difficult to exaggerate. As sculptures, moreover, they rank with the pair of elephants fighting lions which once guarded the eastern entrance to the sanctuary below, the pair of colossal enraged elephants fighting demons which matched them before the north stairs and, to the south, the pair of marvellous horses, infused with spirit and richly caparisoned as though from the stables of the sun. Konarak's monumental sculpture groups in particular – amongst the major achievements of Indian art – clearly show the ability of those who conceived the whole complex to reconcile the usually irreconcilable objectives of overbearing size and supreme aesthetic accomplishment.

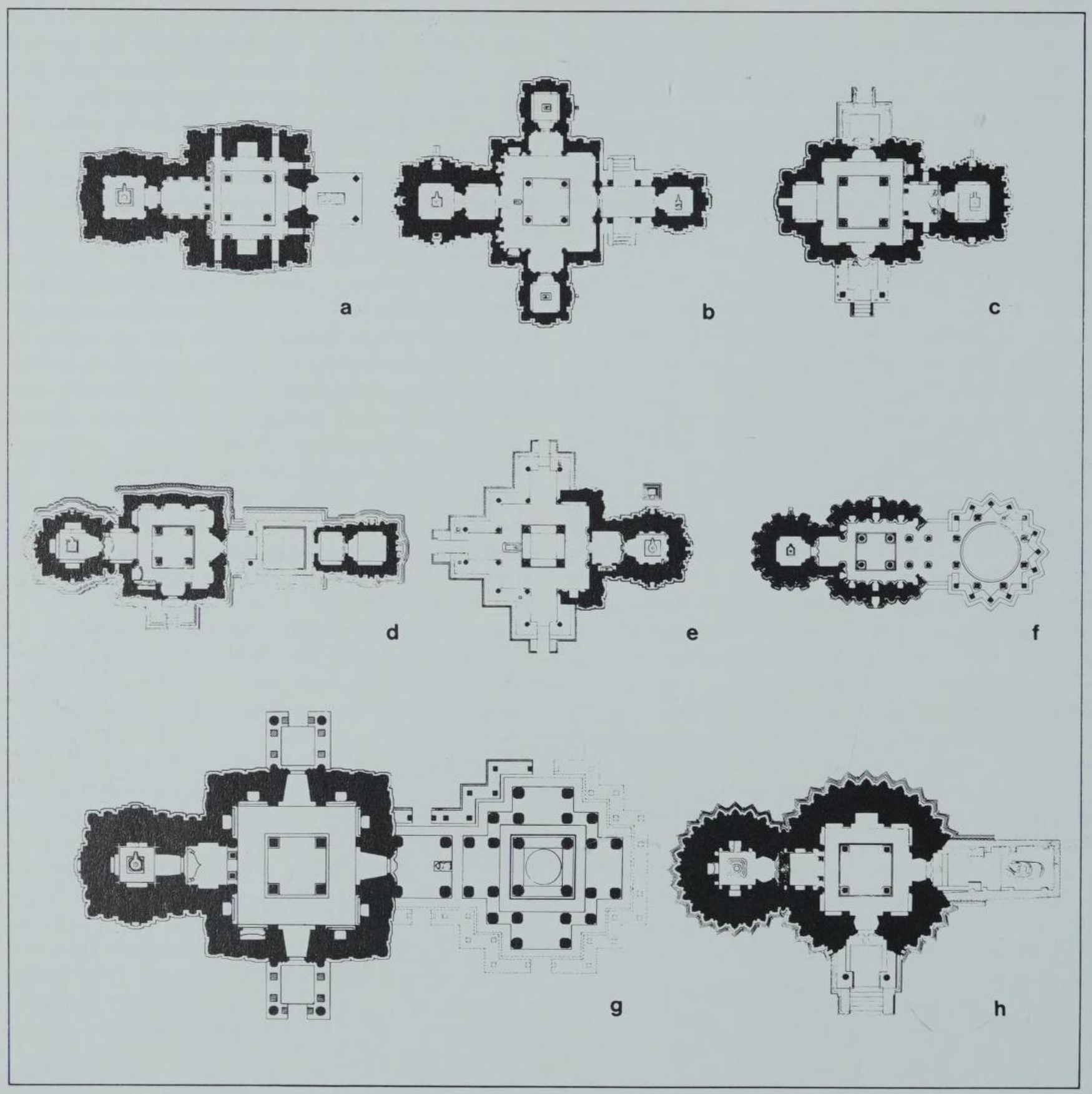
The Later Chalukyas and Hoysalas

The Chalukyas of Badami, who had re-emerged in the 10th century to assist in the final destruction of Rashtrakuta power, first ruled from Manyakheta, the old Rashtrakuta capital, then from Kalyani. The Rashtrakutas were not great builders – though, of course, they left some of India's most important rock-cut work. The Chalukyas, however, their fortunes restored, emerged immediately as vigorous patrons of architecture like their ancestors. They took their influence south, moreover, to rival the Cholas in the domains of the western Gangas whose main sites are their capital, Talkad,
2 and the Digambara Jaina centre of Shravanabelagola. Meanwhile the Eastern Chalukyas of Vengi had maintained their hold on Andhra and continued to build in a hybrid style, subject to the influence of their kinsmen in the west and their great neighbours to the south. During the Rashtrakuta interregnum the former had understandably waned while that of the early Cholas waxed at sites like Biccavolu and Chebrolu.

Like their ancestors, again, the Chalukyas of Kalyani themselves were subject to potent influence from both south and north and their role was to create a distinct style based on a synthesis between southern and northern forms. This was always to retain an essentially southern storeyed approach to the *vimana* but the definition of the architectonic parapet elements decreased as planar variation increased. With a change of material, too, from sandstone to fine-grained, easily worked chloritic schist, blocks became smaller and the early vigour and purposefulness gave way to decorative exuberance. As might scarcely have been expected, after two crucial centuries of development in the north and south they took up their work once more at a point not far beyond where their forebears had left off. Their earliest temples belong to neighbouring groups at Kukkanur and Lakkundi – the latter an important centre of power in the south of the kingdom near modern Gadag.[52]

The Kalleshvara at Kukkanur and Jaina temple at Lakkundi 147(a); – the latter the earliest important work so far identified in 3(b) chloritic schist – have three- and five-storey *vimanas* without ambulatory linked by a generous vestibule to nine-square closed halls. There is moderate interest in varying the wall plane of both *vimana* and hall: the *vimana* walls break forward progressively from the base plane through two intermediate zones to the central bay and each corner is stressed by a projection equal to the first intermediate plane of the central sequence. The system is repeated for the hall but the first intermediate plane extends either side of the intermediate recession. *Ghana-dvaras* and aedicules crowned with miniature southern *vimanas* and prominent vestibule gables are common to both temples. Prophetically, the Kalleshvara has pilasters bearing northern *shikhara* in the recessions and the Lakkundi work has miniature shrines within *kirttimukha* arches.

Socles have a faceted *karnaka* between the plinth slabs and contracted eaves-mouldings. The superimposition of graded ring mouldings and elegantly curved *kalasha*, first noticed in the Panpanatha and Virupaksha at Pattadakal, is developed for the hall columns supposedly by turning them in part on a lathe. Elsewhere pillars show more variation in the profile of shafts, more octagonal zones and more lathe-turned members. The miniature cells of the superstructure's parapets, extending over the hall from the vestibule gable, are still distinguishable in both works but relief is drawn from the variation in the plane of the walls. The central cell at each level, covering the cardinal projections, is dominated by superimposed dormers which provide an assertive vertical



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147. Temple plans IV (1:500) **(a)** Kukkanur, Kalleshvara; **(b)** Nilagunda, Bhimeshvara; **(c)** Niralgi, Siddharameshvara; **(d)** Lakkundi, Kashivishveshvara; **(e)** Haveri, Siddheshvara; **(f)** Arsikeri, Ishvara; **(g)** Ittagi, Mahadeva; **(h)** Dambal, Dodda Barsappa.

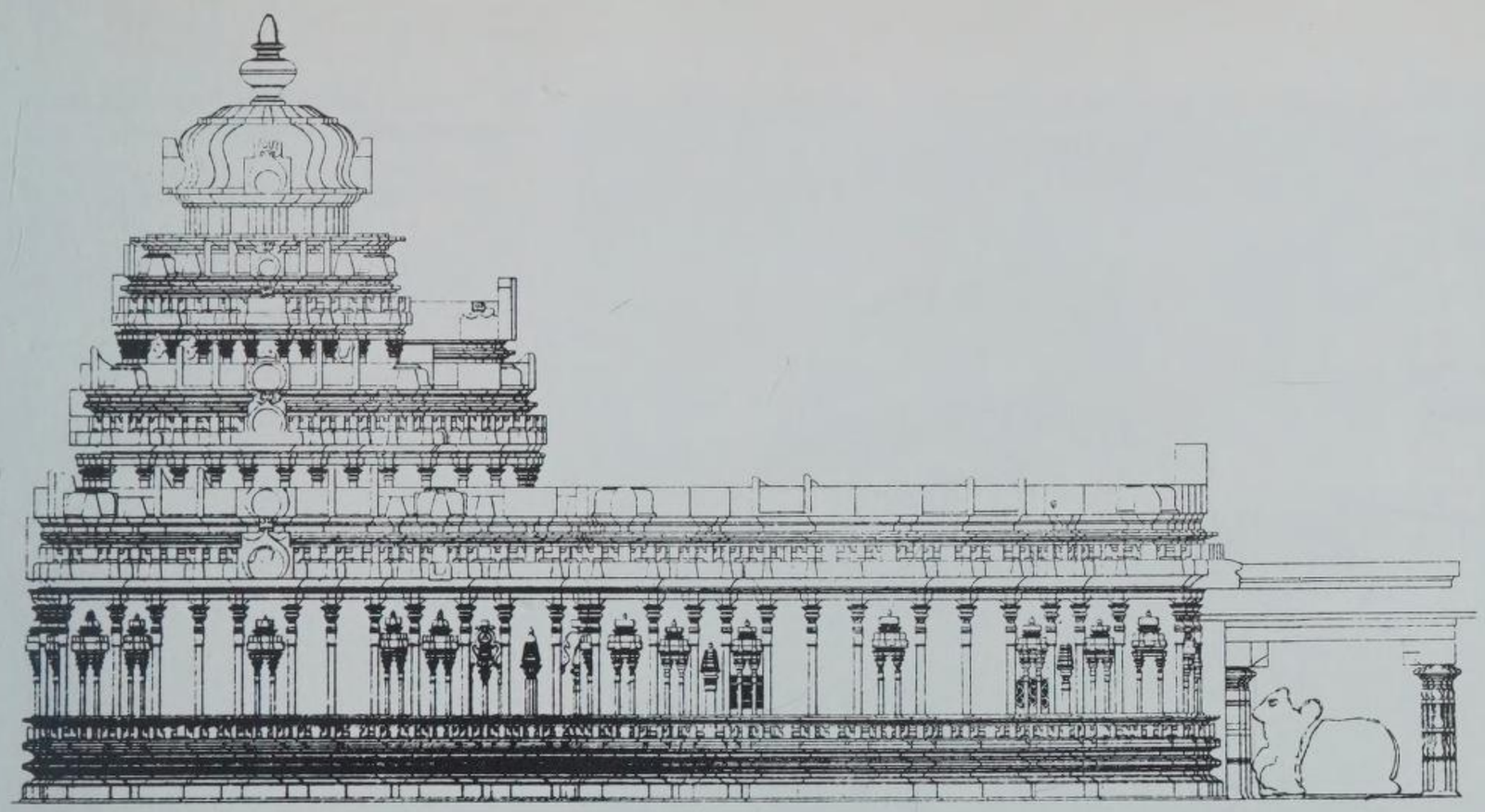
148. Later Chalukyan temple elevations: **(a)** Kukkanur, Kalleshvara; **(b)** Haveri, Siddheshvara; **(c)** Ittagi, Mahadeva.

149. Later Chalukyan temple column types : **(a)** Kukkanur, Kalleshvara; **(b)** Haveri, Siddheshvara; **(c)** Niralgi, Siddharameshvara; **(d)** Lakkundi, Kashivishveshvara.

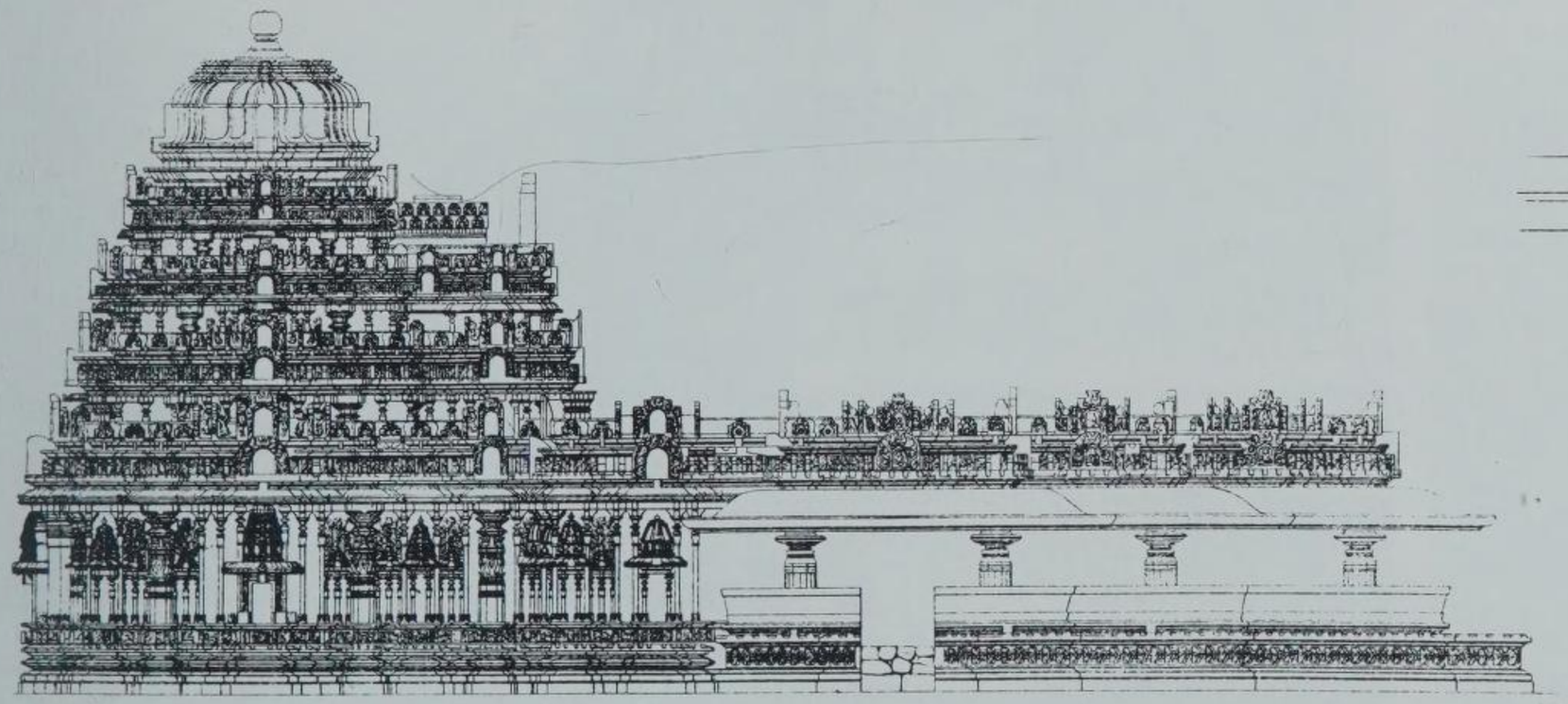
accent and the square cupola is vigorously faceted in line with the projections below.

The next phase in the development of the Later Chalukyan hybrid form, opening in the first half of the 11th century, is marked by adventurous planning, by more assertive planar variation, and by the introduction of weightier pier-buttresses to the intermediate zone between the side and central projections. Notable above all is the treatment of the superstructure and the use of a wide variety of miniature superstructural forms over the aedicules and pier-buttresses. Until the middle of the century these were invariably southern *vimanas* but then miniature Latina, Sekhari and Bhumija *shikharas* began to appear as well. To these, moreover, was soon added the hybrid *vimana* form itself then being developed to full scale by the Chalukyan architects.

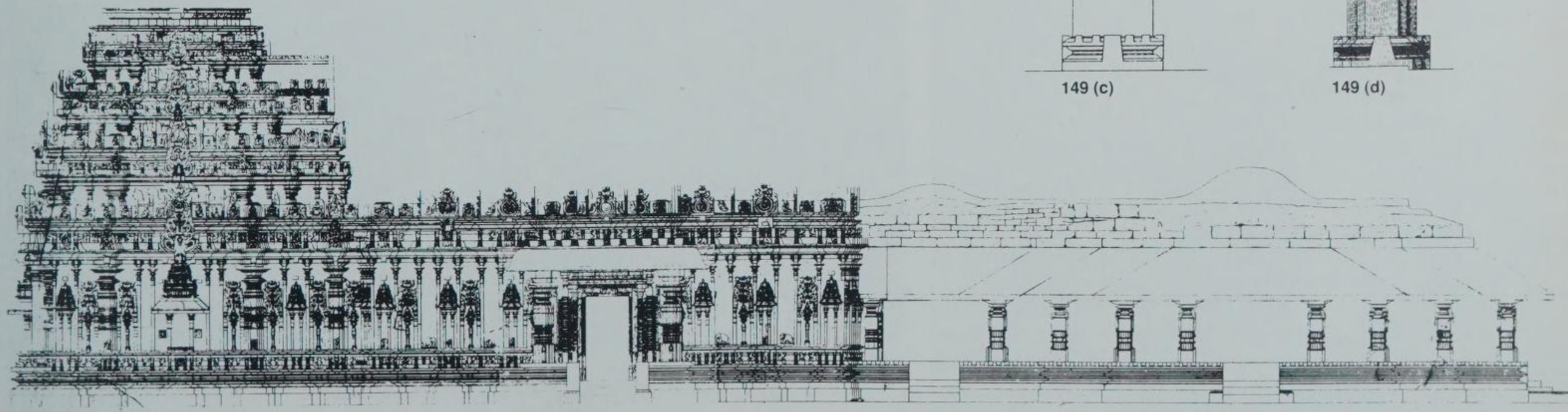
In the development of the Later-Chalukyan *vimana*, the further assertion of the verticals breaks down the autonomy of the storeys in response to the stepped projection of the mass. The capitals of the pier-buttresses in the recessions are repeated at each level between the miniature parapet cells over the corner and central projections, to produce five distinct vertical zones like the Latina *shikhara* of the north.



148 (a)



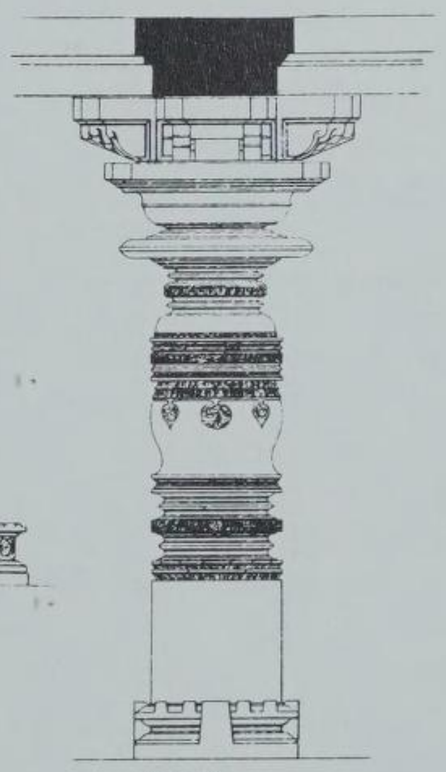
148 (b)



148 (c)

149 (a)

149 (b)



149 (c)

149 (d)

Further, a determined central accent results from the elongation in profile of the central cell gables, suggesting the continuity of their lines though in fact each is stepped back from the one below. Just as the central cells have lost most of their structural identity, becoming elements in an increasingly abstract pattern, so too the corner cells are hardly distinguishable as miniature pavilions and the increasingly serrated cupola becomes more and more like an *amalaka*. Though considerable variety in the combination of circular and square elements continued to enliven the composition of pillars, the circular 'lathe-turned' forms now predominate. These developments are well represented at Gadag, Chaudadampur, Haveri, Niralgi and Nilagunda.[53]

The Sarasvati at Gadag, the Mukteshvara at
147(c) Chaudadampur and the Siddharameshvara at Niralgi are similar in plan to the Kalleshvara at Kukkanur apart from the disposition and number of porches. The Siddharameshvara
147(e) at Havari has three entrances and only the inner corners of the hall adjacent to the vestibule are closed. The three
147(b) shrines of the Bhimeshvara at Nilagunda open from a central hall with a portico to the fourth side also serving a fourth shrine. Open halls, like porches, have full *vedika* with seat-back coping and prominent *chadyas* with *padma* profile which continue across the *vimana*. Apart from the wide variety of 'lathe-turned' columns, those inside the hall of the Sarasvati shrine at Gadag are related to the multi-faceted Gujarati type, reflecting the bands of ornament of the highly adorned wall. The articulation of closed halls is consistent with *vimanas*, the inner bays breaking forward from the base plane to much the same degree and as at Kukkanur and Lakkundi these projections are usually all framed by attenuated *padma-kumbha* pilasters. Weighty pier-buttresses relieve the corners of the first intermediate projections at Niralgi and this feature is given even greater weight at Haveri. Several further lightly projecting planes in the centre are assimilated to house the assertive *ghana-dvaras*, with their increasing variety of miniature *shikharas* and *vimanas* whose prominent *chadyas* echo those of the structure itself. The tendency to fuse the once structural elements of the Southern v*imana* into an increasingly abstract pattern with a major central accent, may well be traced from Haveri to Chaudadampur to Niralgi.

The maturity of the Later Chalukyan style was achieved by the end of the 11th century at several sites including Hangal, Kuruvatti, Ittagi and Lakkundi. Their temples retain the basic sequence of square *mulaprasada*, generous rectangular vestibule and larger nine-square closed hall. In addition there are magnificent cruciform open halls with equilateral projections between the arms of the cross and ceilings as sumptuous as those of the Solankis. Fertility of invention in varying the basic theme of the 'lathe-turned' Order has not flagged: one particularly significant innovation is fluting across all the mouldings. Walls have even greater plasticity than

150. Kukkanur, Kalleshvara Temple: **(a)** from south-west; **(b)** hall towards sanctum.

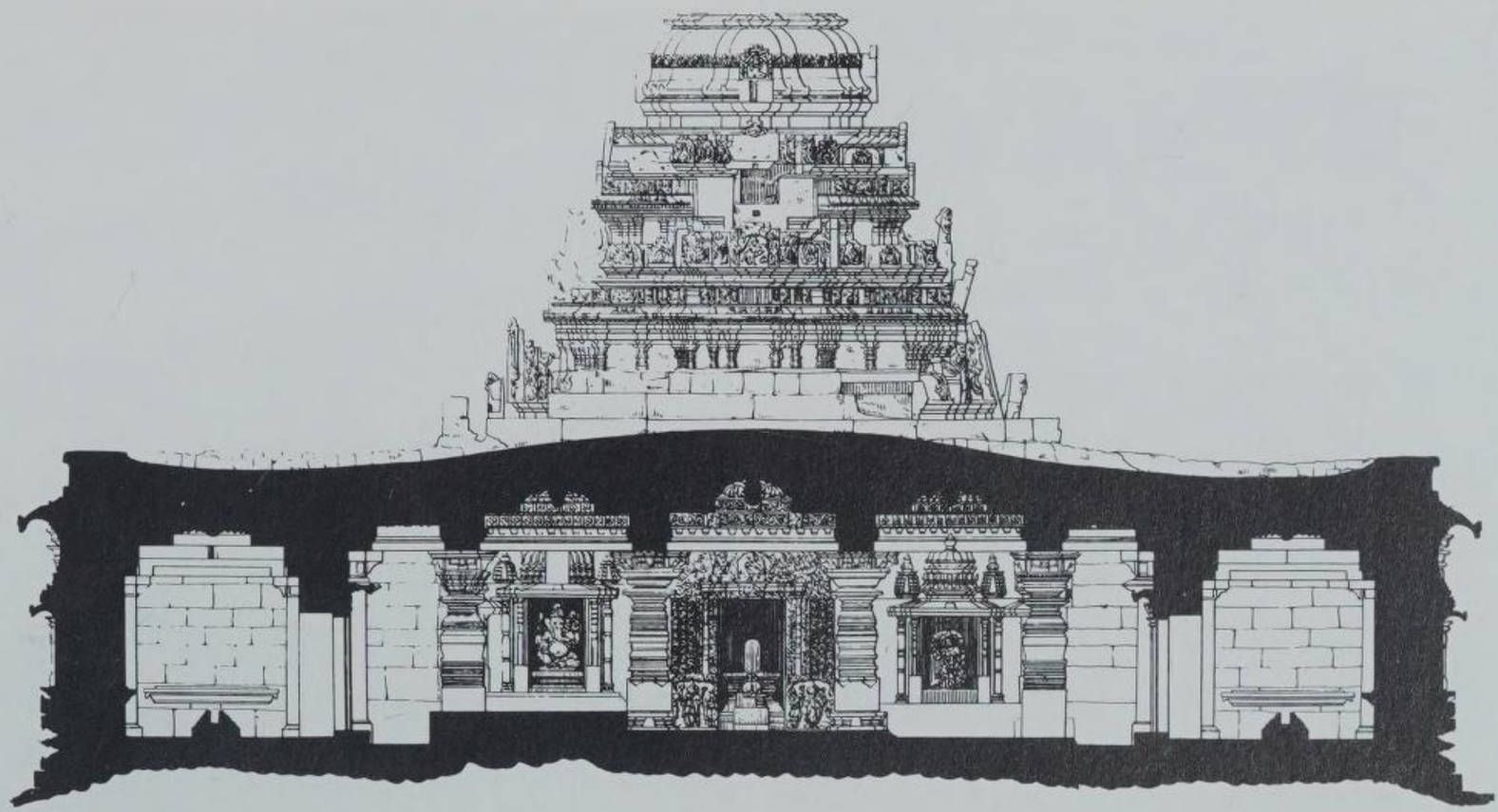
150 (a)

150 (b)

151. Niralgi, Siddharameshvara Temple: section through hall and elevation of *vimana*.

152. Chaudadampur, Mukteshvara Temple: *vimana*.

153. Gadag, Sarasvati Temple: hall portico.



151

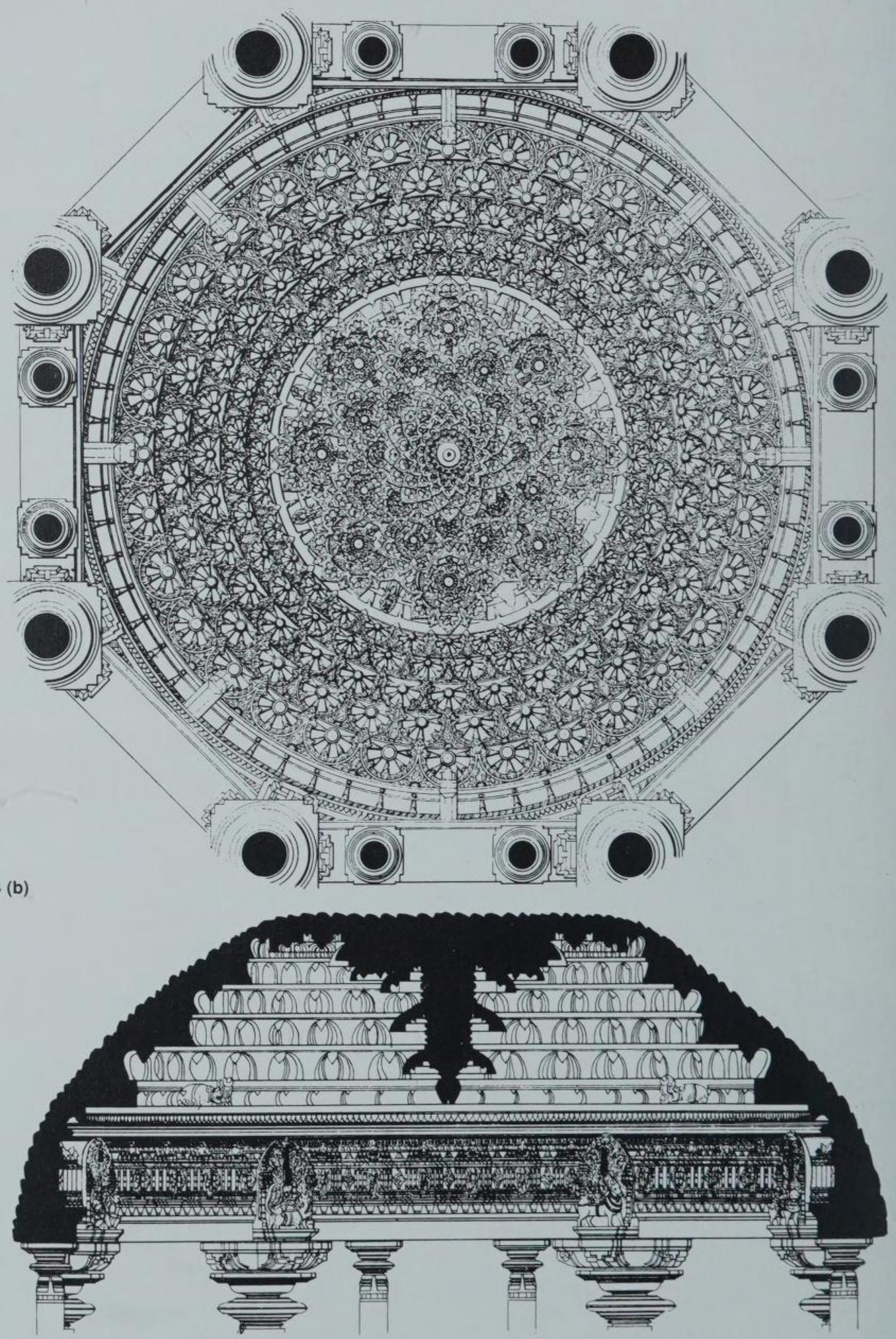
152

153

154 (a)

154. Hangal, Tarakeshvara Temple: **(a)** *vimana;* **(b)** hall ceiling.

155. Ittagi, Mahadeva Temple: **(a)** *vimana* detail; **(b)** sanctum portal; **(c)** hall.

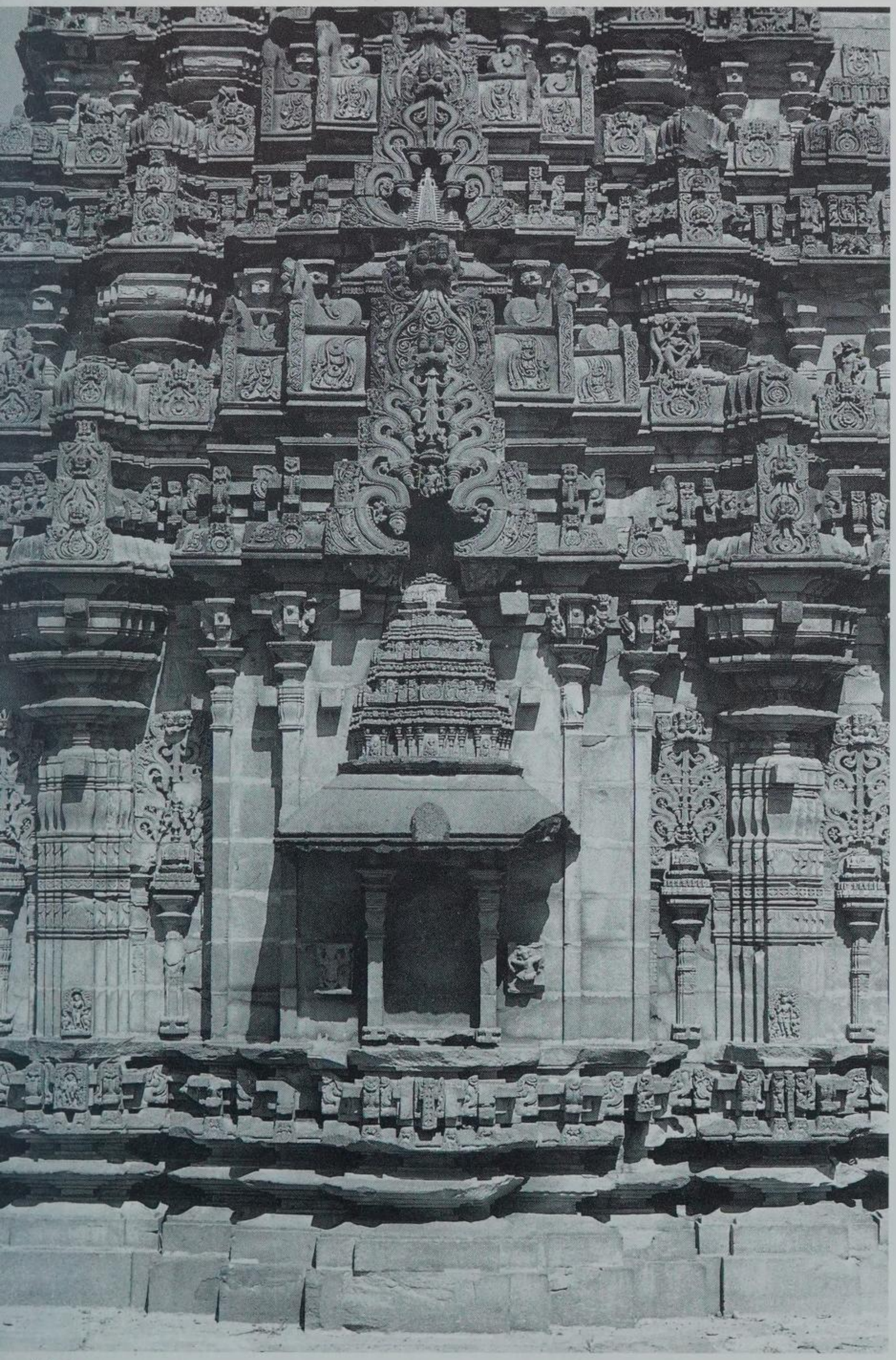


154 (b)

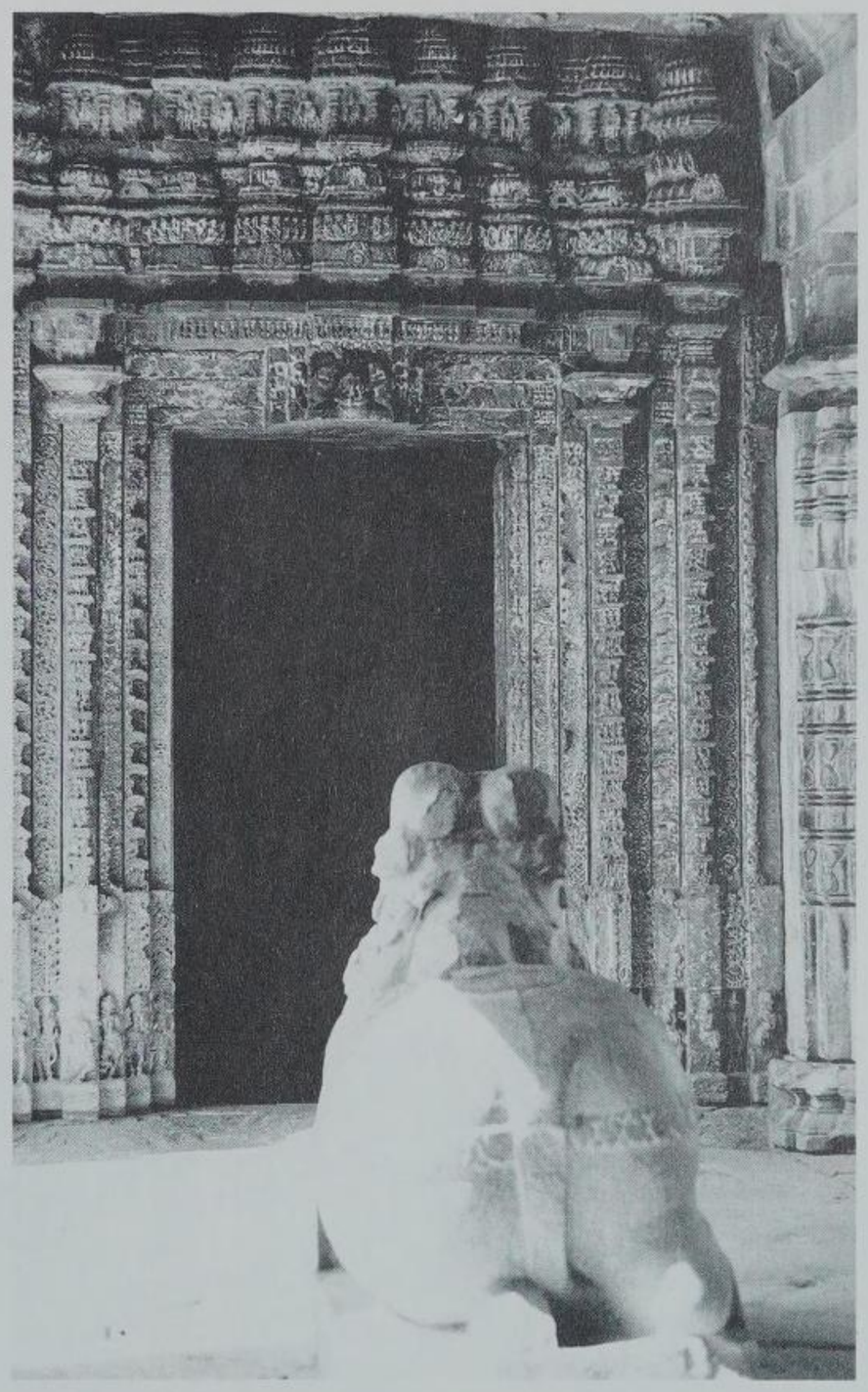
formerly due both to the enhanced depth of projection and to the consistent interpolation of piers in the peripheral recessions. The various constituent elements of the southern *vimana* have now resolved themselves into a series of luxurious horizontal mouldings which step forward more vigorously than ever but, somewhat ironically, structural forms reassert themselves in the more elaborate works as miniature southern *vimanas* over the pier-buttresses of the intermediate recessions.[54]

The central dormers quite eclipse the cells from which they are elaborated in the *vimana* of the Tarakeshvara at Hangal and the effect of their vertical linking is clearly apparent. The interpenetration of horizontals and verticals is completed between the Mahadeva of Ittagi, the Mallikarjuna of Kuruvatti and the Kashivishveshvara of Lakkundi, where the main entablature is broken in the centre and the miniature Sekhari *shikharas* over the *ghana-dvaras* actually penetrate up into florid trefoil dormers. In contrast to the increasing abstraction of the *vimana* itself, the precision with which the structural elements of the traditional southern *vimana* are quoted in miniature is well illustrated at Hangal and Ittagi. Ittagi offers one of the school's most notable open hypostyle halls with a sumptuous variety of column types. While

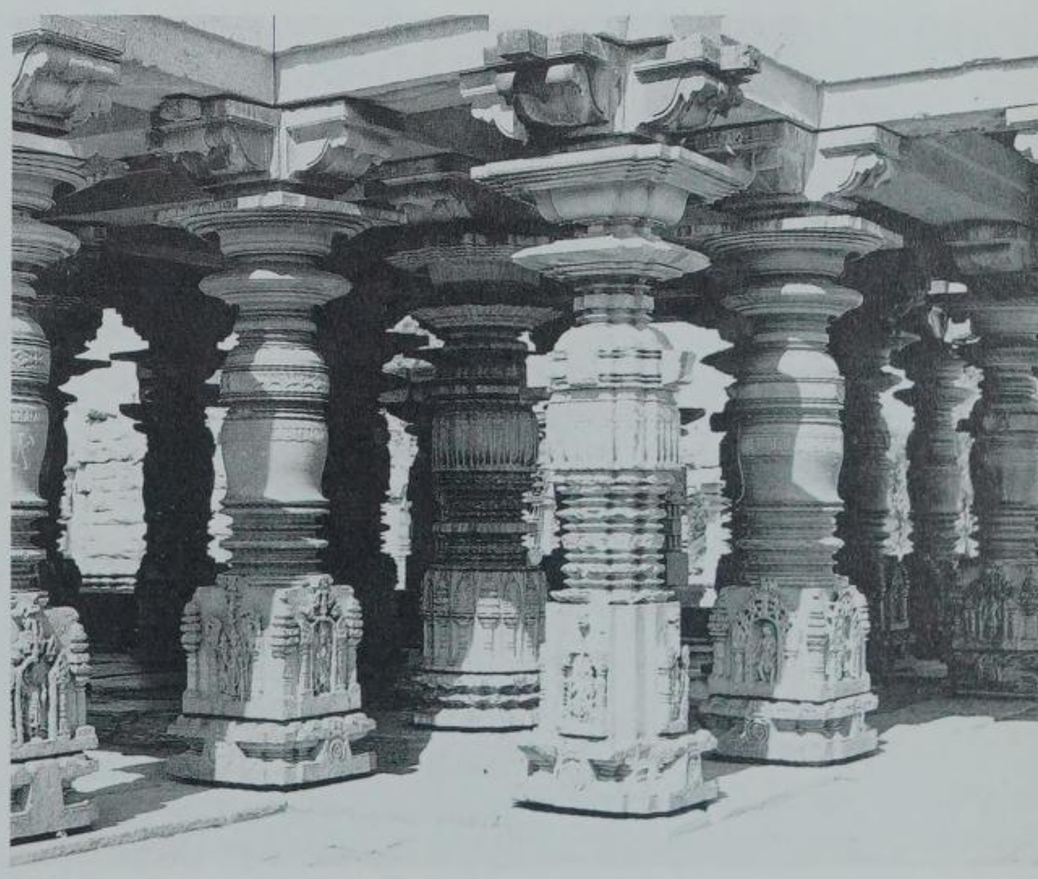
147(d),(g); 49(c); 6; *15(b)*



155 (a)



155 (b)



155 (c)

architectonic lintels are not the later Chalukyan norm, Ittagi's shrine's portal has a magnificent multi-storey *prasada* motif. The Gujarati influence is well represented by the profusion of base mouldings at Lakkundi and the unsurpassed intricacy of the ceiling in the hall at Hangal.

From the middle of the 11th century, the Chalukyas were in disarray. The Yadavas and Hoysalas were pressing in upon them from the north and south and the Kakatiyas had disclaimed their suzerainty. The Later Chalukyan contribution to Yadava architecture was incidental. On the other hand, Kakatiya work – well represented by the great 'Thousand-pillared' Temple of Hanamkonda and the Ramappa at Palampet – is essentially derivative from the Later Chalukyan in plan and ordonnance, though interest in Malwan star-shaped forms is apparent in some of the dynasty's later commissions.

Sharing the peninsula with the great southern builders, the Hoysalas too seem to have drawn their inspiration from the spheres of their military interest in the north-west Deccan rather than from cultural contacts with their south-eastern neighbours. In the vicinity of their base, Dorasamudra, the Chalukya-derived tradition of the Western Gangas seems to have been their starting point and they absorbed an interesting Chola-Chalukya hybrid in the domains of the Banas, best represented perhaps by the Bhoga Nandishvara and Arunacholishvara at Nandi. The Hoysalas' Lakshmidevi at Dodda Gaddavalli well represents this phase.

Among contemporary works in former Chalukyan domains which may post-date the Hoysala conquest, the star-shaped plan, approximated at Hangal, was fully realized in both the
147(h) *vimana* and hall of the Dodda Basappa at Dambal. If this work, usually dated to the second half of the 12th century, is in fact due to the Hoysalas they must again have used Chalukyan craftsmen. It lacks the dazzling relief with which the Hoysala workers were to obviate monotony and relies instead on the somewhat mechanical repetition of attenuated pilasters bearing miniature hybrid *vimanas* which form identical niches. In this it resembles the Someshvara Temple at Gadag where the consistent application of the pilasters eliminates even the buttresses, which formerly played such a key role. Here, however, the attenuated niches are partly masked by a lower, weighter, series with prominent *chadyas* meeting to divide the wall into two registers over a high and elaborate base which also incorporates niches. At Dambal, all variations in plane are preserved to the summit of the *amalaka*-like *shikhara* and the effect is entirely removed from the southern *vimana* prototype, though the reappearance of distinguishable cells to form each facet of all six storeys provides a link between the work of the mature Hoysalas in the south and the Bhumija tradition well entrenched further north.

Beyond their Chalukyan experience, the Hoysalas acquired a fondness for multi-shrined complexes and star-shaped

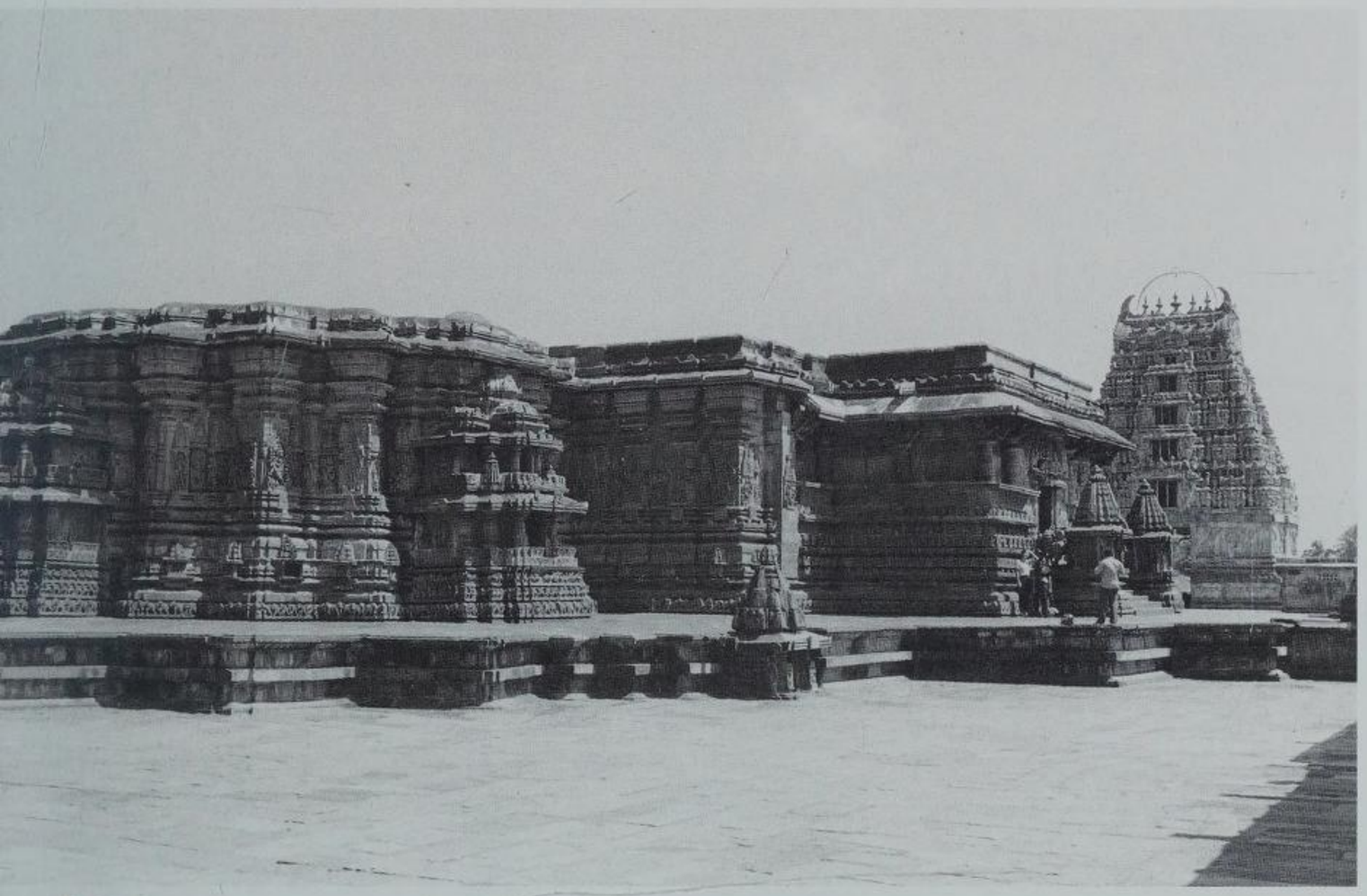
156

156. Lakkundi, Kashivishveshvara Temple from south-east.

157

157. Dambal, Dodda Barsappa: *vimana*.

158. Belur, Keshava Temple **(a)** from south-west; **(b)** *vimana* detail; **(c–d)** hall and portico, exterior and interior details.

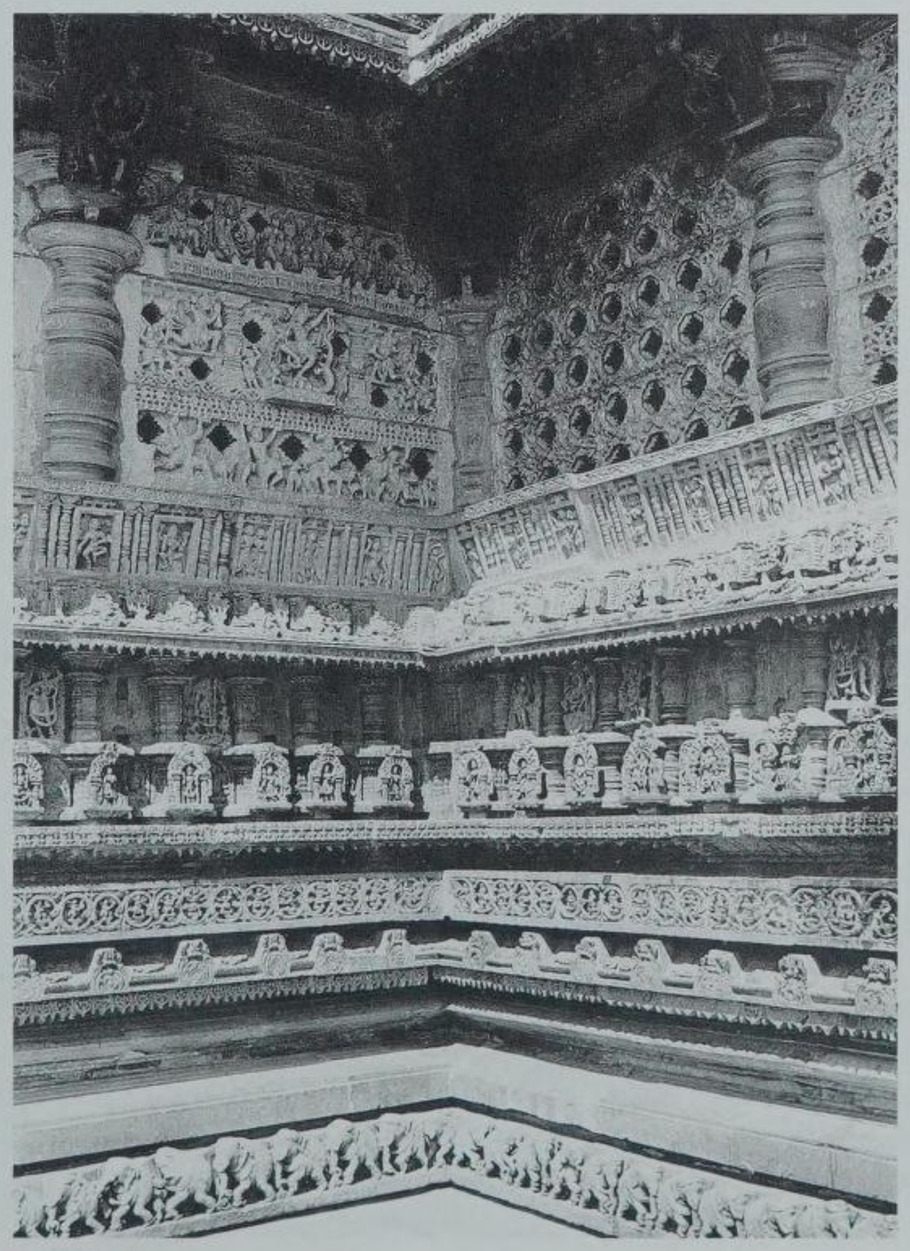


158 (a)

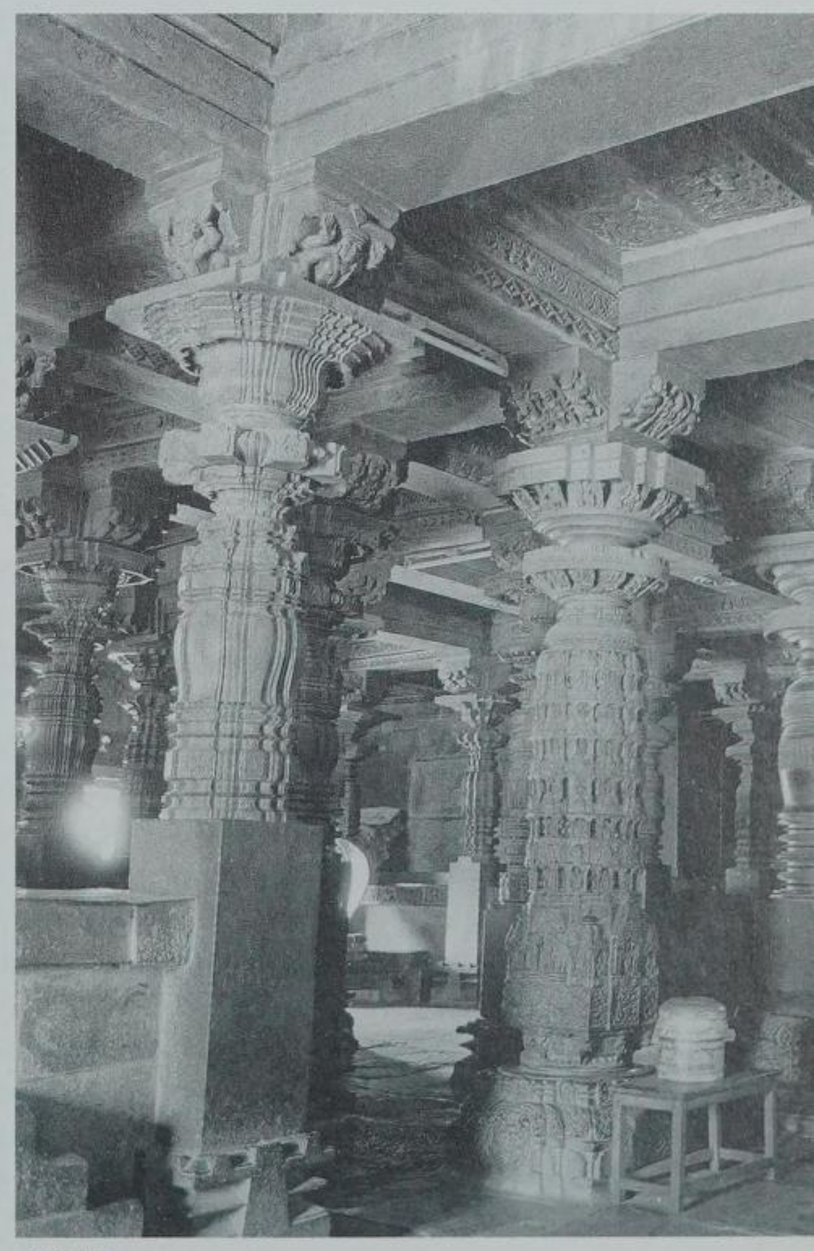
plans presumably from familiarity with northern Deccani practice. Characteristic of the school after it had absorbed this influence are tiered platforms echoing the perimeter of the buildings they support, superimposed frieze slabs, screened halls, 'lathe-turned' columns with bold figural brackets and profuse ornamentation carved like ivory or sandalwood. The so-called Chenna-Keshava at Belur may be singled out from amongst their earlier mature works. The mid-12th century was dominated by the Hoysaleshvara at Halebid (Dorasamudra). Maturity was fully realized over the next hundred years in works like the Lakshmi-Narasimha temples at Harnahalli and Nuginalli of the 1230s and 40s respectively. The culminating Hoysala achievement was the Keshava at Somnathpur of the 1260s.[55]

The Keshava shrine at Belur dominates an extensive Vaishnavite complex surrounded by an enclosure with *gopura* in the east. On a platform generous enough for circumambulation and characteristically echoing the configuration of the plan, the *vimana* is still essentially five-bay, though the relationship between the equilateral projections tends towards the star-shaped. All the bays are richly faceted and two-storey balconies are attached to the cardinals. The multiple aedicules are particularly florid *makara*

158 (b)

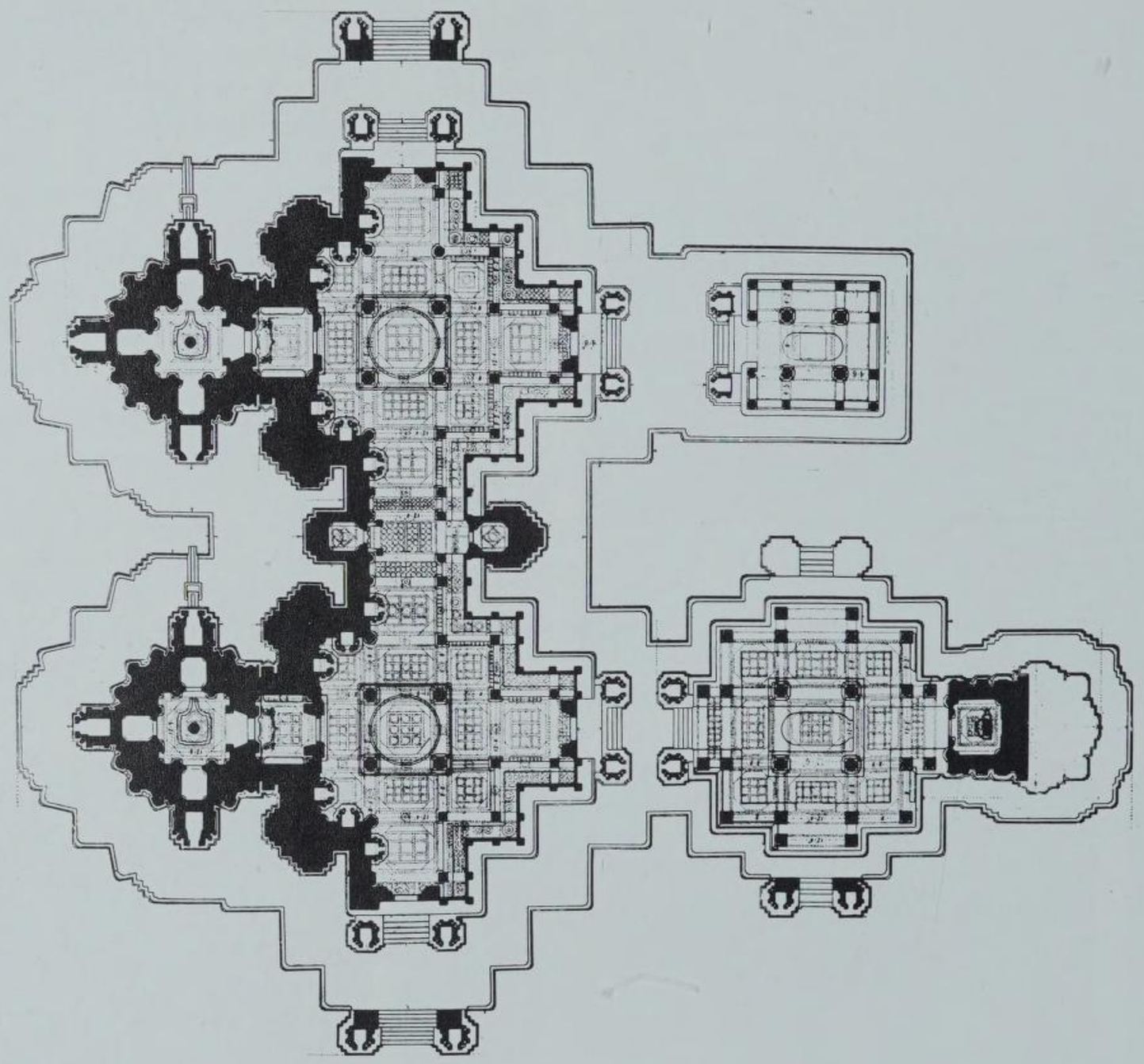


158 (c)



158 (d)

159. Halabid, Hoysaleshvara Temple:
(a) plan (1:500); **(b)** wall of southern *vimana* ;
(c) inner hall before southern sanctum.



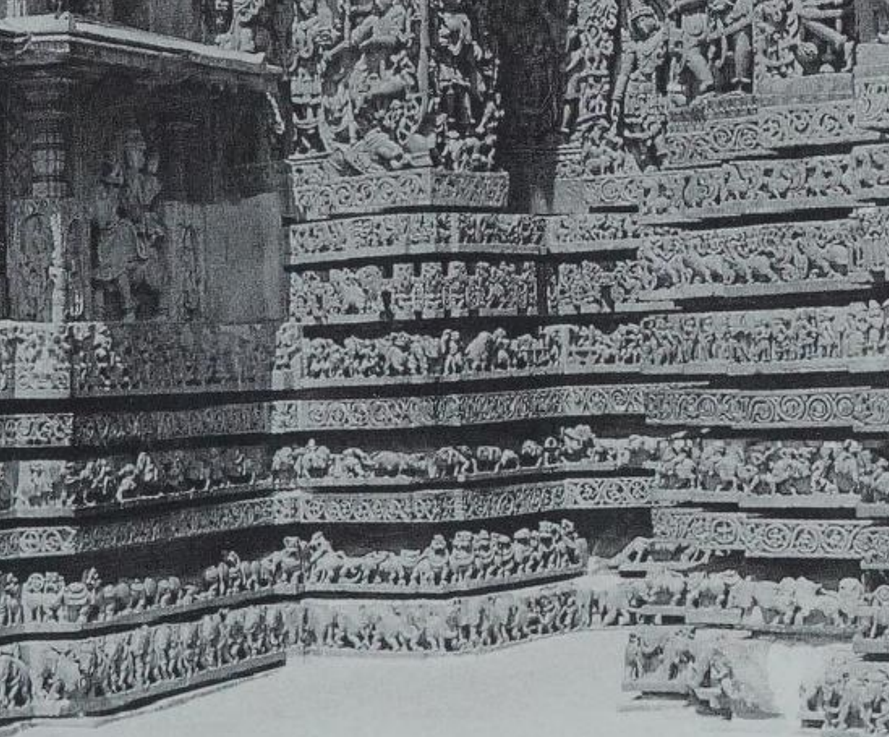
159 (a)

toranas but the exuberant sculpture, often applied to miniature shrine-capped pilasters within them, tends to obscure this. Beyond its three large porches, the hall was at first open, later screened over seat-back coping between 'lathe-turned' pillars with figure brackets - the brackets and the perforated screens recalling Early Chalukyan forms. Similar columns, varied in pattern and often richly fluted like those of Ittagi, support the splendid tiered ceilings. The socle mouldings are richly varied: the *vimana* and adjacent hall walls have plinths with elephants frieze, *karnaka, khura*, and *kumuda* interrupted by niches with miniature *vimanas* and surmounted by a dado above the floor slab with *padma* and *karnaka* mouldings. The balconies have three superimposed friezes but beyond them the open hall retains the magnificent plinth with elephants below rich *padma, karnaka* and *kapota* mouldings. Its particularly sumptuous entablature has rows of filigree mouldings, niches and piers bearing miniature *vimanas* above a valance-like *chadya*. Above the broad *chadya*, the superstructure is missing.

The Hoysaleshvara is comparable in most respects to the Belur temple but its twin Shiva shrines, preceded by Nandi pavilions, are commensurate and joined on the cross axis of their nine-square halls. The *vimanas* are star-shaped with two-storey balconies. The base throughout is of superimposed slabs with splendid reliefs. The exquisitely executed figure sculpture on the walls almost entirely obliterates the supports but an 'attic' of niches separates two *chadyas* below the lost superstructure.[56] *15(c)*

Small, but still virtually intact, the triple-shrined Keshava temple at Somnathpur is set in a compound surrounded by an enclosure with cloisters, sixty-four subsidiary shrines and a magnificent columned entrance pavilion. The star-shaped *vimanas* share a nine-square pavilion, extended to provide entrance hall and porch, and the perimeter of the whole is echoed by the platform for circumambulation. The base consists of superimposed slabs, with sumptuous reliefs as at Halebid. Each facet of the walls in the *vimanas* and the closed corners of the pavilion between them have a lavish

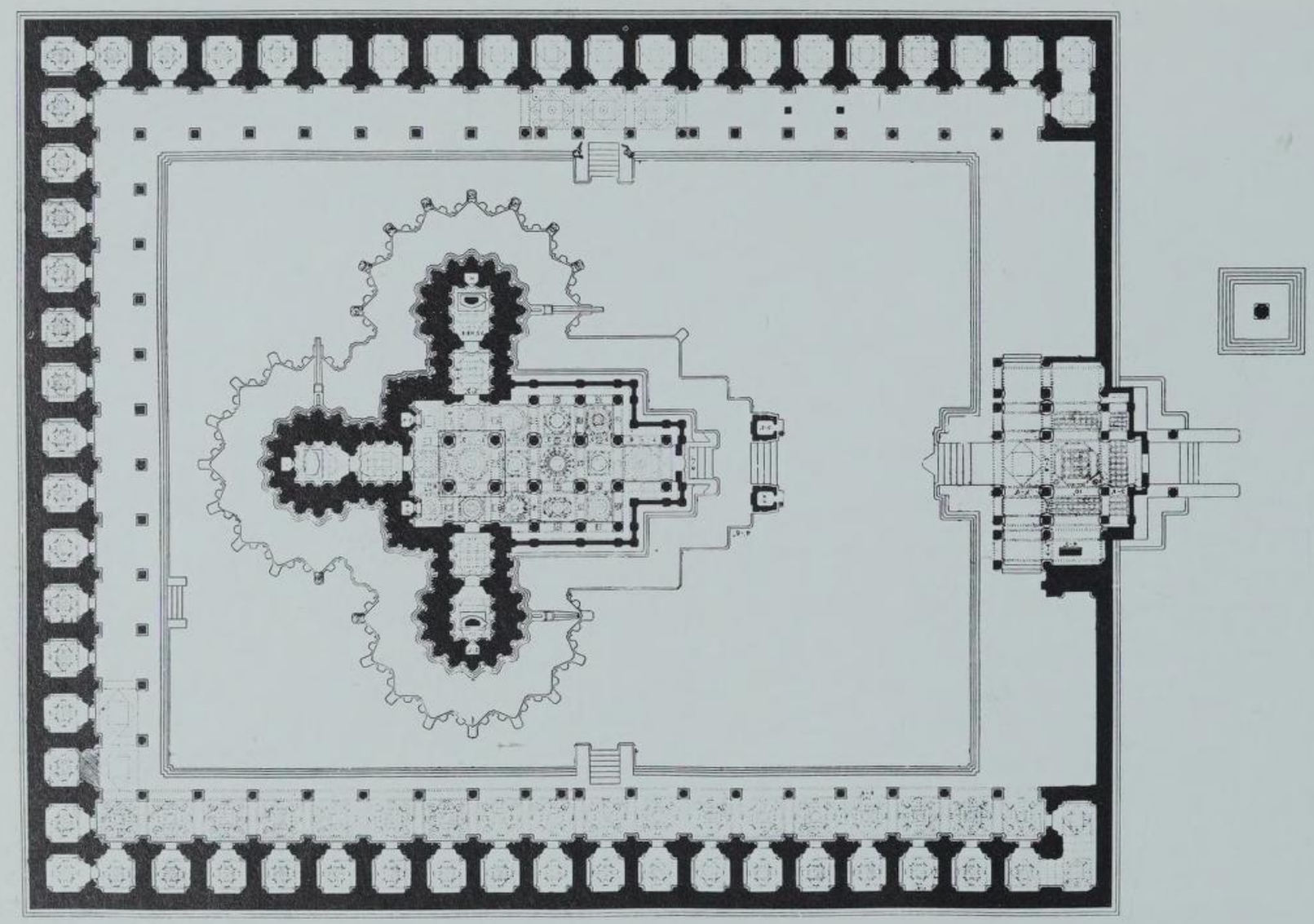
159 (b)



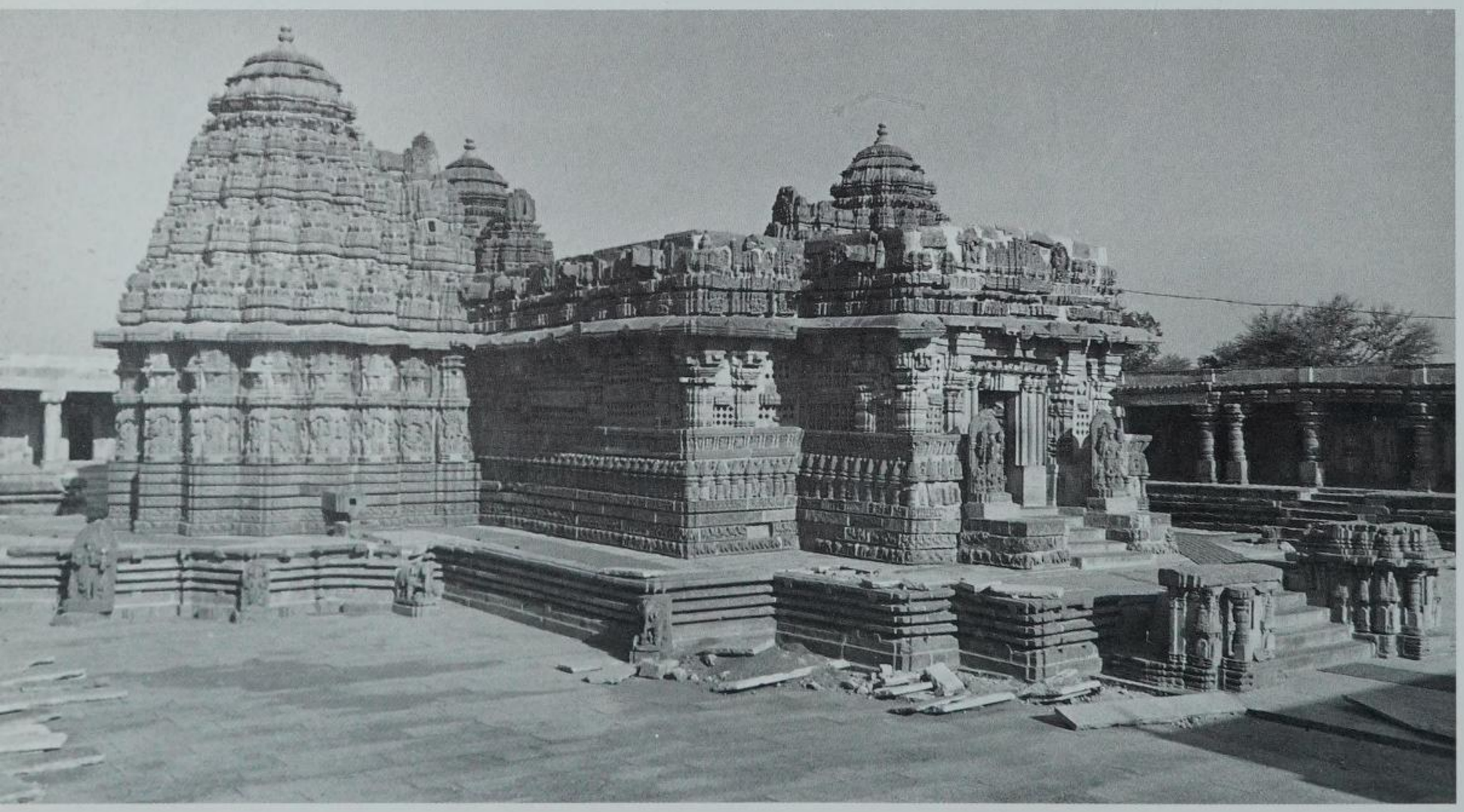
159 (c)

icon below *makara toranas* superimposed over pilasters bearing miniature *vimanas*, those on the side shrines cut by the entablature. The porch parapets bear faceted square pillars over *mithuna* panels, unusual in the south. Inside, the columns are mainly the 'lathe-turned' type, with and without fluting. The ceiling compartments are distinguished by a stunning diversity of pattern. The superstructures, moderate in height, are amongst the few from the mature Hoysala period to remain complete. Above a broad *chadya*, with lace-like valance, the upper storeys, with parapets of vestigial cells and substantial vestibule gables, reflect every variation of plane in the walls below. Slightly earlier, the gorgeous little Ishvara at Arsikere amplifies the star of its *vimana* for both its closed and open halls and the plan which generates its seductive, gem-like volumes must surely rate as one of the most beautiful formal exercises ever devised.

147(f)



160 (a)

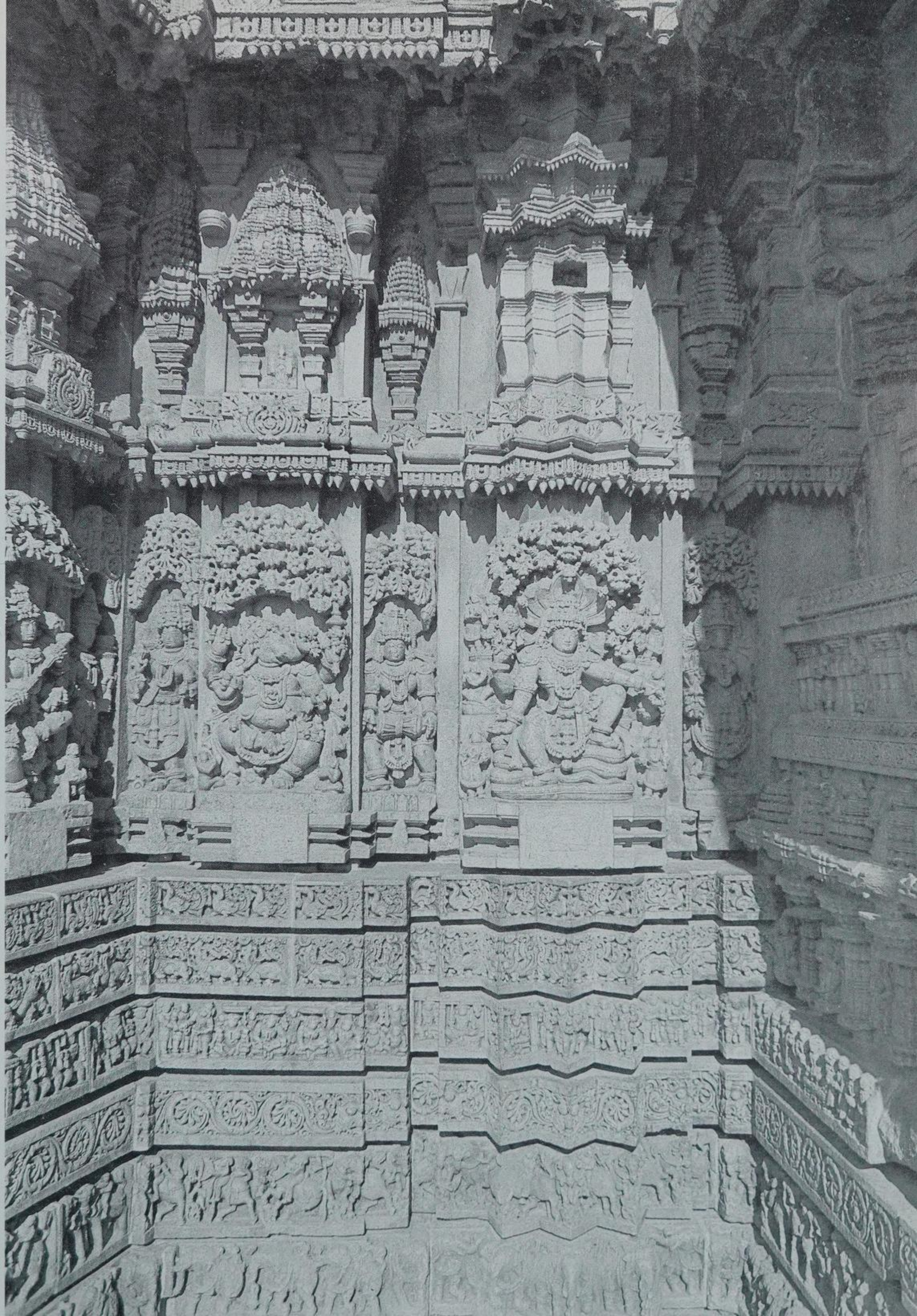


160 (b)

160. Somnathpur, Keshava Temple **(a)** plan (1:500); **(b)** from south-east; **(c)** hall towards sanctum; **(d)** vestibule exterior wall detail.

161. Arsikeri, Ishvara Temple from south-west.

160 (d)



160 (c)

161

The Fort

From Rajasthan to Coromandel, India is studded with fortresses, many of them transformed after the Muslim invasions but most of them retaining some older work. Typically, a citadel is perched on a lofty and precipitous outcrop of rock with a town at its base ringed by massive moated battlements pierced by ingeniously devious gates defended by barbicans, but all the ancient categories are common. As we have seen these are based on six principal types of site: mountain or hill, forest and desert, marsh, lake or sea and the metropolis in the open plain – all requiring man's ingenuity in varying degrees to inhibit approach and supplement their natural advantages with ramparts.[57]

Kalanjar and Ranthambhor, venerable keys to Hindu power in Bundelkhand and Rajasthan, may well represent forest forts – a category depleted less by the disappearance of the forts than by the destruction of the forests. For desert forts we may best go to the Thar. Much expanded from the 14th and 15th centuries on the profits won from control of trade routes between the Doab and Sind, from its foundation in 1198, Jaisalmer has been the supreme example of the type. River and lake play a crucial role in the defence of many forts that fit into other categories – like the 'City Palace' of Udaipur. The most prominent surviving water-forts, properly so called – like Vijayadurga on the west coast or Vellore in the south – were built for Hindu rulers but took their definitive form well after the advent of the Muslims, the European colonial powers and gunpowder. Vijayadurga was built for the Maratha Shivaji in the 17th century and many of the most spectacular of India's mountain forts, in the Western Ghats, were built or rebuilt for him too. Their foundations usually go back to the Yadava period – if not to the Chalukyas or Rashtrakutas – but Shivaji's own foundations, like Raigarh, follow the well-tried formula of securing the line of approach to otherwise unassailable crags.

162

18; 19

162. Kalanjar fort, southern ramparts and plan (1:40000): **(a)** Alamgir Gate; **(b-g)** gates guarding main approach; **(h)** Panna Gate; **(i)** Kot Tirtha; **(j)** Budha Badra; **(k)** Neel Kantha.

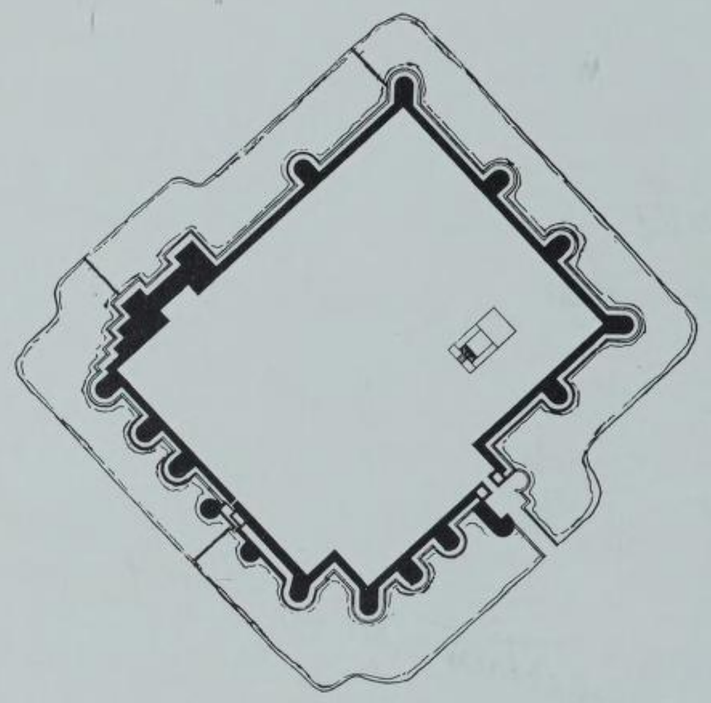
163. Jaisalmer: eastern range of ramparts.

Of the great metropolitan forts whose foundations were laid for Hindu rulers, outstanding are Vijayanagara, Mandu – which falls into the category of hill and forest as well – and Gaur – a rare survivor from the category of earth or mud fort, where river and marsh played a crucial role. These will be encountered later in connection with their rich legacies of religious and secular buildings. From the most familiar category of an isolated acropolis protecting a settlement in the plain, Jodhpur, Gwalior and several of the greatest forts of Rajasthan and Bundelkhand will be treated with their palace buildings in the period to which the latter belong. Here we must confine ourselves to one fort each from the north, the centre and the south – Chittor, Devagiri and Gingee – which are representative of Hindu achievement before the influence of Crusader practice in the Middle-East and gun-powder became pervasive under the Muslims.

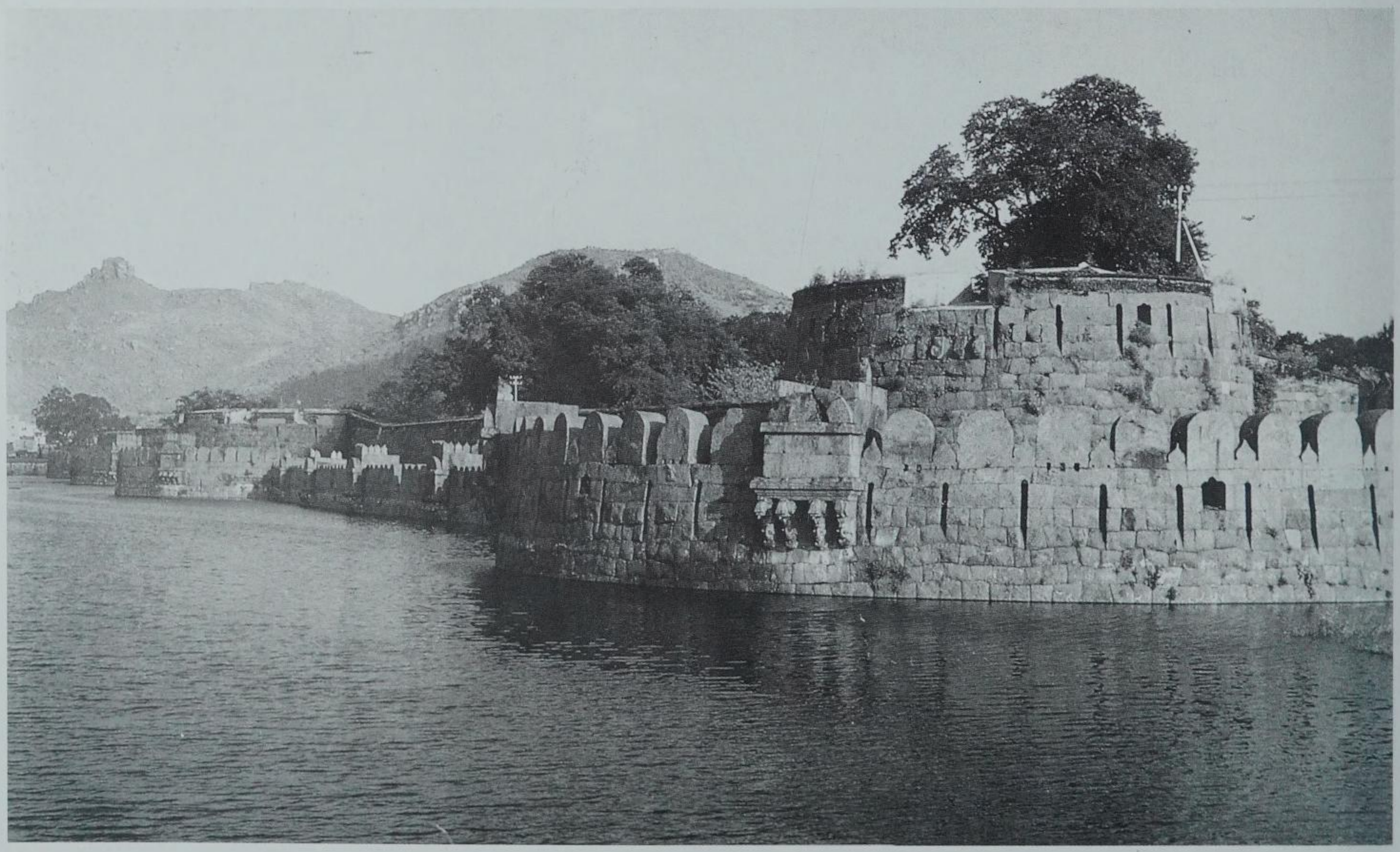
When Chittor was first occupied is uncertain but, the key to Rajasthan, it must always have been the objective of any would-be potentate there. Supposedly called after its founder, Chitrangad Maurya, Chitrakuta is mentioned first in the 7th century as the capital of Mauryan princes. During the wars with the Arabs early in the 8th century these were overthrown by the Guhilot Rajput Bappa Rawal. The Guhilots were dislodged by the Pratiharas in the 9th century and they in turn gave way to the Rashtrakutas and the Paramaras. When the latter declined in the 11th century the Guhilots recovered Chittor but were soon to acknowledge the sovereignty of the Solankis. After a heroic defence, the fort

fell to the Delhi sultan Ala-ud-din Khalji in 1303 but with the Sultanate in disarray in the mid-14th century the Sisodia branch of the Guhilots expelled the Muslims and re-founded Chittor as a main centre of Rajput power.

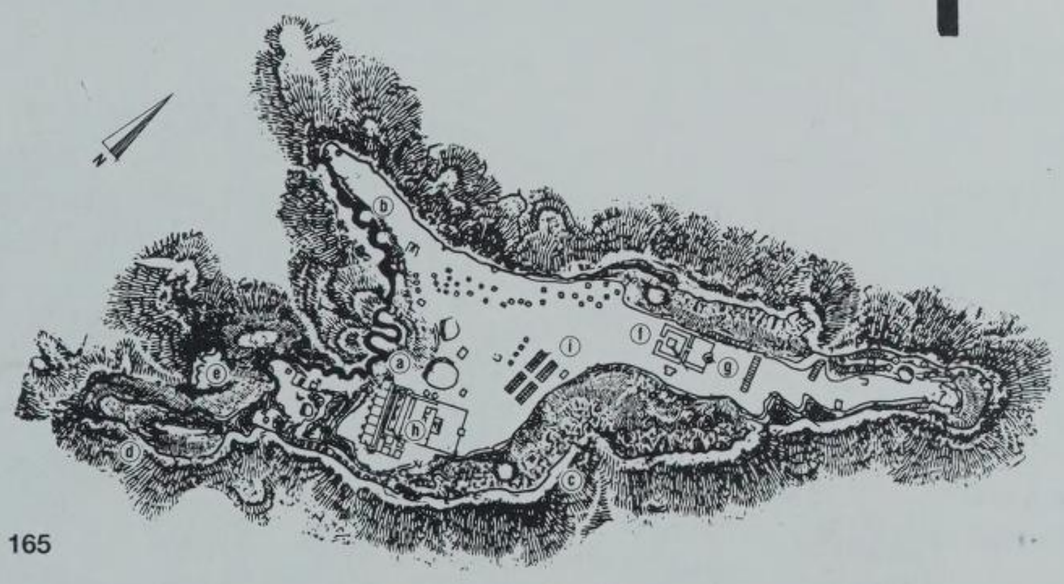
The main ascent to the acropolis, nearly 200 metres above the plain, is from the west but there are subsidiary paths to the north and east. These have one and four gates respectively, including the major eastern Suraj Pol. Across the sinuous western approach a series of seven massive gates leads to the Ram Pol. All except the first have twin towers and in most the lower masonry is comparable with 11th-century Hindu work elsewhere on the site but the battlements seem generally to have been rebuilt later – possibly after the assaults of the early-14th century. The fourth and fifth gates were rebuilt with arches, but all the rest have lintels carried on corbel brackets in the Hindu manner, with varying degrees of elaboration culminating in the particularly sumptuous 15th-century Ram Pol. This has a richly moulded base incorporating three friezes like those of



164. Vellore fort from north and plan with Jalakanteshvara Temple right.



165. Raigarh fort, general view of western ramparts and plan (1:25000): **(a)** Maha Darwaza; **(b–e)** subsidiary approaches; **(f)** Jagvishvara Temple; **(g)** Shivaji's *samadhi*; **(h)** palace; **(i)** bazaar.



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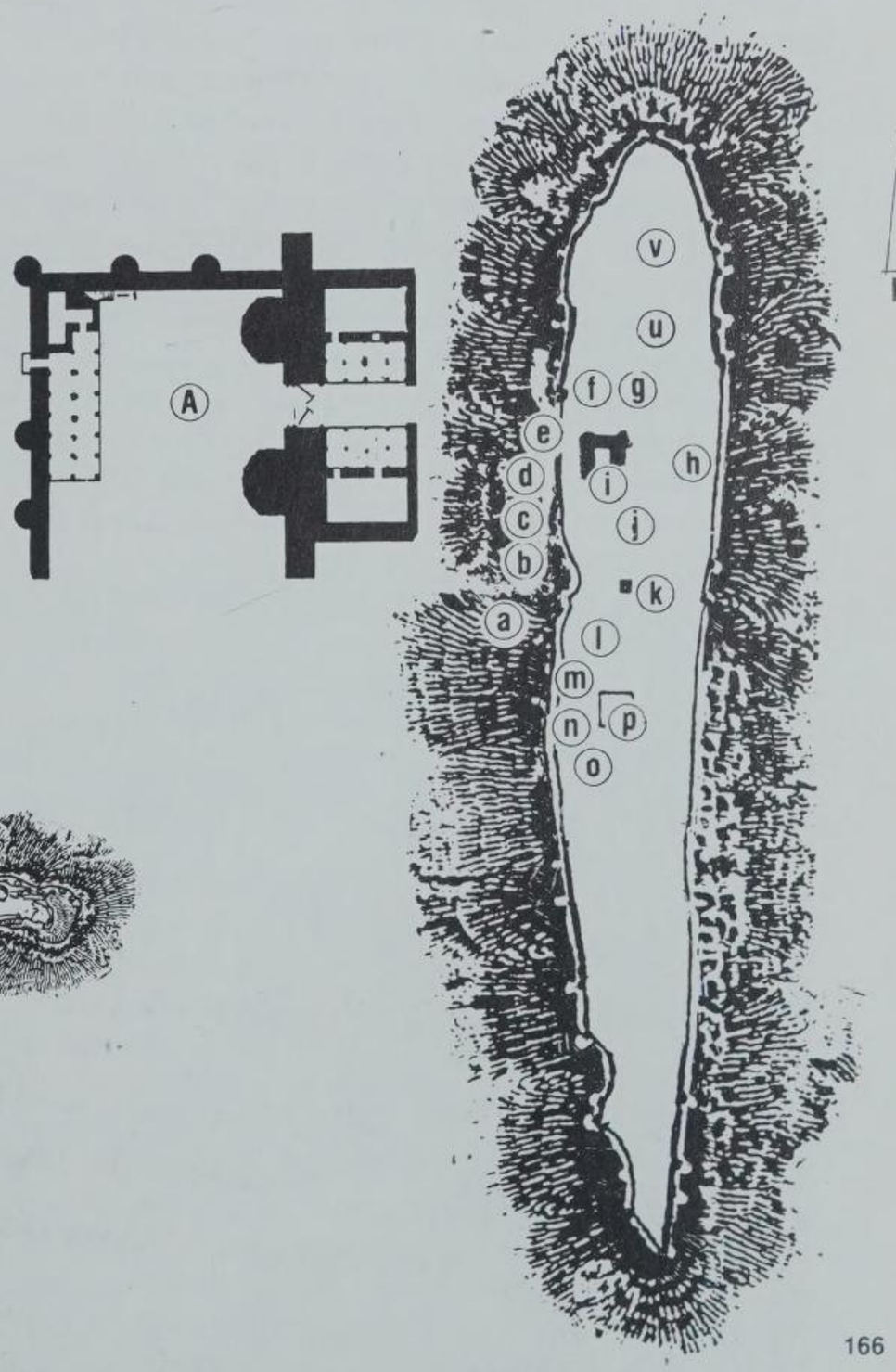
temples built immediately before the Muslim invasion. There are no barbicans, but a *mandapa* with elaborately carved Hindu columns provides shelter for the guard commanding the entrance. To prevent circumvention, cross walls link the second, fourth, fifth and sixth gates to the main ramparts which ring the summit over the precipitous slopes. The mural battlements, like those of the gates, are distinct from post-Muslim work elsewhere. The bastions are slightly battered and the merlons have a 'pointed-arch' profile – which might suggest Muslim influence in restoration work – but the embrasures splay out from narrow slits below a continuous string course to form rare wedge-shaped forms. As there is no record of massive damage to the walls, beyond the breaches made by Malwan and Mughal artillery in the 16th century, the walls of Chittor are generally considered to be

20(a)



166

166. Chittor fort plan (1:50000): **(a and inset A)** Badal Gate; **(b–e)** intermediate gates guarding main approach; **(f)** Ram Pol; **(g)** Salindheshvara Temple; **(h)** Tower of Fame **(i)** Rana Kumbha's palace; **(j)** Kumbhashyama Temple; **(k)** Tower of Victory; **(l)** Samidheshvara Temple; **(m)** Gaumukh tank; **(n)** houses of Jaimal and Patta; **(o)** Kalikamata Temple; **(p)** Ratan Singh's palace.

citadel is based was originally a Buddhist monastic site, some of whose excavated shrines were incorporated in the defences which were probably first founded by a feudatory of the Rashtrakutas in the 9th century. Devagiri's great days began in 1187 when the Yadava king Billama V established it as the capital of his powerful kingdom which extended from the Krishna to the Narmada.

the finest examples of mediaeval Hindu defence-work to survive in any degree of completeness.

Unexcelled even in Rajasthan is the extensive chain of strongholds with which the Rashtrakutas, Chalukyas, Yadavas and their Muslim successors controlled the Deccan. A key link in this chain was Devagiri, called Daulatabad since Muhammand bin Tughluq moved his capital there in the 14th century. The great conical rock hill upon which the

22

Of the town's three ring walls the Muslims were probably responsible at least for the outer one and for the arcaded and vaulted main gate in the most powerful double-walled, double-moated inner circuit, but all the major features of the citadel, outstanding of their kind, seem to date from the Yadava period. Some 300 metres high, its isolated rock base is ringed by a moat and scarped all round to produce unscalably smooth, vertical faces rising to about a third of its height. After passing through several gates into and out of the innermost town enclosure – containing the ruins of the Yadava palace – the sole entrance to the stronghold opens from a wall-walk skirting a huge bastion. This is reached by a causeway which crosses the moat between descending and ascending flights of steps. As the moat was dammed and the water level under the control of the occupants, the causeway could be flooded. From the wall-walk steps mount to a cavernous, L-shaped guard chamber beyond which a narrow passage leads to a small open court before the tunnel. The portal, hewn from the rock between massive piers with brackets and lintel, is embellished like the door to a Yadava temple. In the dark tortuous tunnel, barred by retractable stone slabs and sealed with an iron trap door, steps connect natural caves for additional guards and a special ventilated chamber in which smoke could be produced to suffocate those attempting ascent.

20(b) The fort at Gingee was founded by the Cholas. Their work may well have been confined to the conical hill called Rajagiri, which bears the citadel, but by 1442 the Pandya governor of Tanjavur was incorporating the two neighbouring hills of Chandragiri and Krishnagiri into the triangular complex which made Gingee the most celebrated of all southern forts.

An outer curtain defends all three hills and culminates in the system of walls protecting usuable high ground on Chandragiri and Krishnagiri. From the centre of the triangular formation, three main lines of walls succeed one another before the citadel on Rajagiri at the apex. Supplementary walls seal ravines. Entrance to the complex was gained only through the gate in the centre of the wall forming the base of the triangle, about half-way between Chandragiri and Krishnagiri. The citadel's outer bailey, partially moated and containing the granaries and the later Nayaka's multi-storey, *prasada*-like Kalyana Mahal, was entered through a great triple gate, with barbican and heavily guarded courts, forcing passage through 90-degree turns no less than six times. The next two gates, into and out of the second bailey, are diagonally disposed, the uppermost one almost as complex as the first. Just below the summit the rock is divided by a deep chasm over which a drawbridge led to the final narrow gate, defensible by a mere handful of men.

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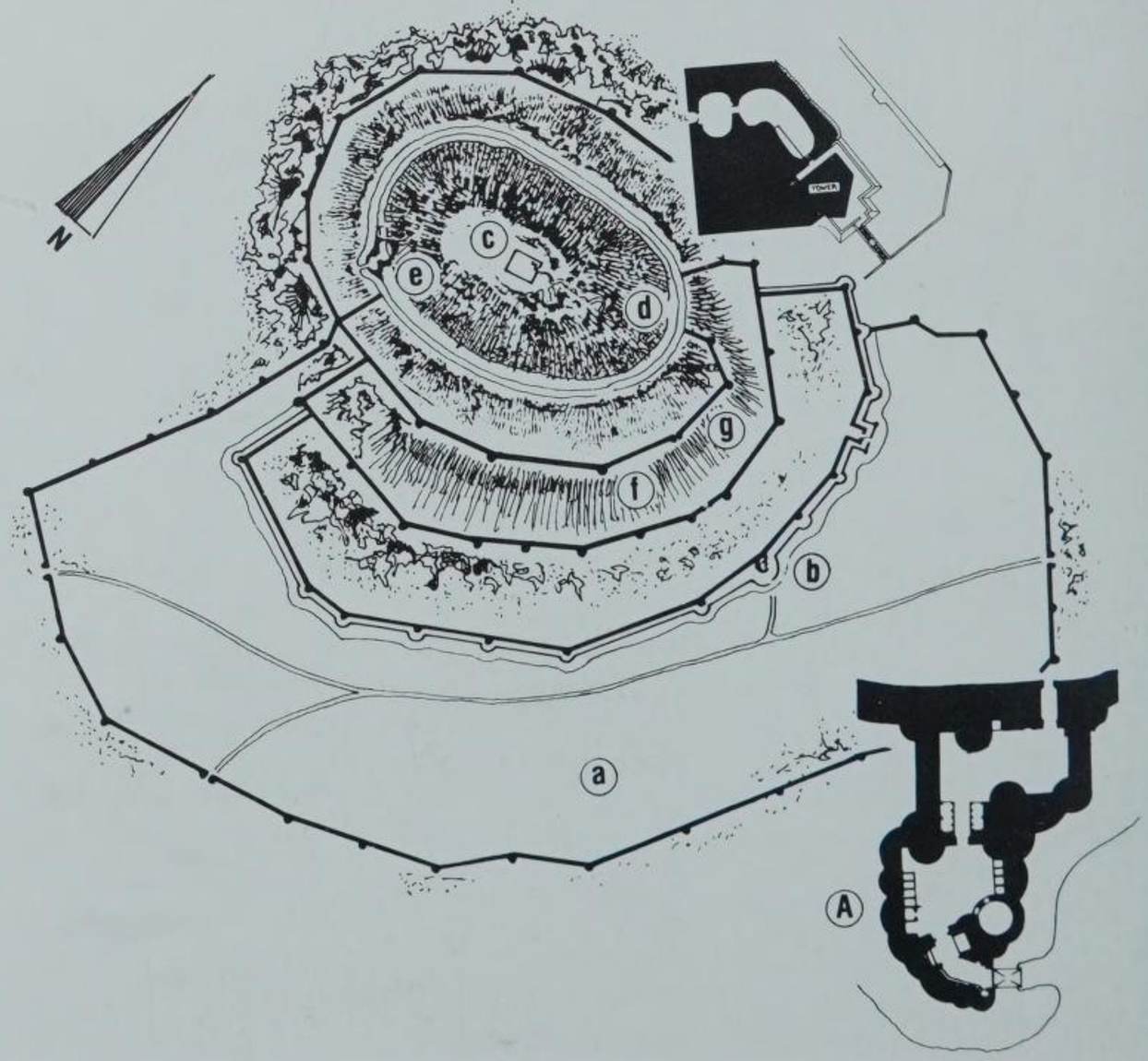
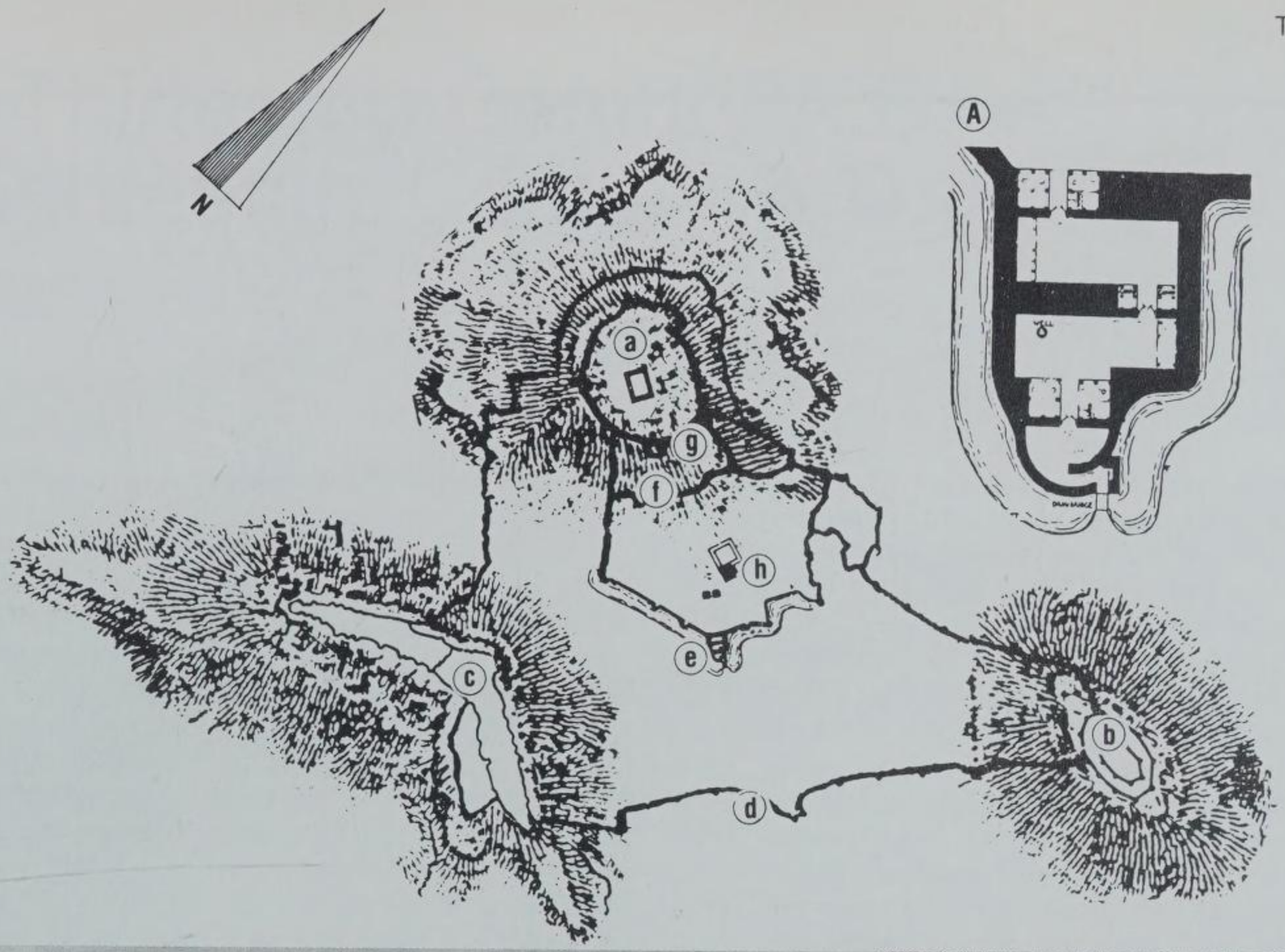


167. Devagiri/Daulatabad fort, north-west from outer town and plan (1:20000): **(a)** outer town; **(b and inset)** triple gate; **(c)** citadel; **(d and inset)** causeway and tunnel; **(e)** rock temple and moat; **(f)** Jami-masjid; **(g)** Chand Minar.

168. Gingee fort, Rajagiri, early-19th century aquatint and plan (1:20000): **(a)** Rajagiri; **(b)** Krishnagiri; **(c)** Chandragiri; **(d)** outer gate; **(e and inset A)** triple gate to inner fort; **(f)** third gate; **(g)** triple gate to citadel; **(h)** Kalyana Mahal.



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Shrinagar
KASHMIR
JAMMU
Lahore
SIKHS
Multan
PUNJAB
Panipat
Delhi
SIND
RAJASTHAN
Jaisalmer
Brindaban
Mathura
Agra
OUDH
Lucknow
SHARQIS
Amber
KACHHWAHAS
Fatehpur Sikri
Jodhpur
Ajmer
MARWAR
Ranthambhor
TOMARAS
Datia
Orchha
Jaunpur
Allahabad
ILYAS SHAHIS
HUSAIN SHAHIS
Pandua
Gaur
(Lakhnauti)
Tatta
Mt. Abu
Chittor
MEWAR
Kumbharia
Udaipur
BUNDELKHAND
Chanderi
GUJARAT
Patan
SISODIYAS
AHMAD SHAHIS
KHALJIS
MALWA
BENGAL
Tribeni
Ahmadabad
Dholka
Champanir
GHURIS
Dhar
Cambay
Mandu
Mt.Girnar
Broach
Satrunjaya
KHANDESH
Surat
BERAR
MARATHAS
Devagiri (Daulatabad)
Ahmadnagar
AHMADNAGAR
BIDAR
Warangal
Bidar
Golconda
Gulbarga
GOLCONDA
Bijapur
BIJAPUR
Raichur
Goa
Vijayanagara (Hampi)
Ikkeri
Shringeri
Chandragiri
Vellore
MYSORE
Gingee
PANDYAS
Madurai
Rameshvaram
Padmanabhapuram
Delhi Sultanate under Ala-ud-din Khalji
Mughal Empire under Aurangzeb
Bahami Sultanate
Vijayanagaran Empire
100 0 100 200 300 400 500 miles

3 Thirteenth Century A.D. – Eighteenth Century A.D.

The Advent of Islam; Hindus and Jainas Defensive

Introduction

The Pattern of Patronage

The real beneficiaries of the political chaos that was the legacy of dynastic rivalry in north India were the forces of Islam. Foremost amongst these were those of Ghazni, a principality forged in Afghanistan by a Turkish adventurer whose son Mahmud led a series of raids on the major religious centres of northern India in the first three decades of the 11th century. The Somanatha of the Solankis was perhaps the wealthiest source of booty and though the ferocity with which it was destroyed left an enduring legacy of bitterness, it proved insufficent to galvanize Indian rulers into any effective form of combination against a renewal of the Islamic threat. On the contrary, they fought one another incessantly over the century and a half of respite granted them before Muhammad Ghuri, another Turkish adventurer from Afghanistan, swept in with the intention of permanent conquest.

By 1182 the Ghuri sultan was in control of Sind – where the earliest Muslim regime in the Subcontinent had long been established – and by 1185 he had Lahore. The Rajputs at last managed some degree of cohesion beside Prithviraja Chahamana who, as lord of the Delhi region, was most immediately concerned. However they were ultimately beaten by the better-equipped, more flexible, grimly determined invaders and Muhammad established the Sultanate of Delhi in the early 1190s. On his assassination in 1206 his commander in Delhi, Qutb-ud-din Aibak – reputedly once a Turkish slave – seized the initiative in India. He founded the so-called Slave or Mamluk Dynasty of Delhi Sultans and quickly consolidated himself on the Yamuna and Ganges. Muslim armies had taken Bundelkhand by 1203, and a display of proselytizing militancy comparable to that of the 7th-century Arabs in North Africa carried them right across India to Bengal within a couple of years. The Rajputs checked their advance in Rajasthan but failed to see any need to press their successes beyond the frontiers of parochial concern and unite to dislodge the Turks from Delhi.

Though the new state was to be an Indian entity rather than an extension of Afghanistan, its rulers kept themselves aloof from the Indians. Muslims from Persia and Afghanistan, in addition to the sultan's fellow Turks, filled the principal political and religious offices of the kingdom, with a powerful body of Turkish Sunni theologians (*ulema*) as their guiding force, or found lucrative careers in the armies. There was to be significant rivalry amongst Muslim factions at the seats of power but all Muslims could look forward to a privileged position in the economic life of the Sultanate's expanding domains. For centuries Arab traders had prospered in the ports of Gujarat and these were to be amongst the earliest centres of Islamic culture to flourish beyond the seats of the metropolitan power.

Qutb's son-in-law and successor, Iltutmish (1211-36) was relatively successful in maintaining the Indus as his north-west frontier and gained the domains of the Senas in the east. He asserted his authority over his Turkish supporters and even won recognition as a ruler from the Caliph in Baghdad – the fount of legitimate Islamic political power. But he failed to deal conclusively with a resurgent Rajput threat early in the 1220s and his position was undermined in the 1230s by Mongol invaders who won the northern Punjab. The Turkish nobles were reasserting themselves by the time of his death and, after a period of chaos, one of them, Balban, seized the throne in 1265. He reformed the process of government and confirmed it as a virtual monopoly of the Turks yet when he died in 1286 the Afghan Khaljis won the throne, admitting not only their fellow Afghans but also Indian Muslims to positions of political authority.

Land grant and tax reform backed revival of the Sultanate's imperial ambitions and Ala-ud-din Khalji (1296-1316) took the Sultanate to its apogee. He held off the Mongols till 1306 when troubles in their homeland drew them back. He made significant gains at the expense of the Rajputs when he captured two of their major strongholds, Ranthambhor and Chittor, and briefly ousted the Rawals who had established themselves in Jaisalmer at the end of the 12th century. He went on to crush the Solankis of Gujarat and the Paramaras of Malwa, reducing their territories to provinces. Even before his succession he cleared the way to such power in the Deccan as the Sultanate was ever to achieve, by overcoming

169. India 13th century – 18th century A.D.

the Yadavas and their powerful fortress of Devagiri. From this base his peninsular expeditions reduced several southern powers to tributary status and penetrated as far as the tottering Pandya kingdom. However Ala-ud-din's successors could not hold such over-extended lines and many of the subjugated peoples reasserted themselves.

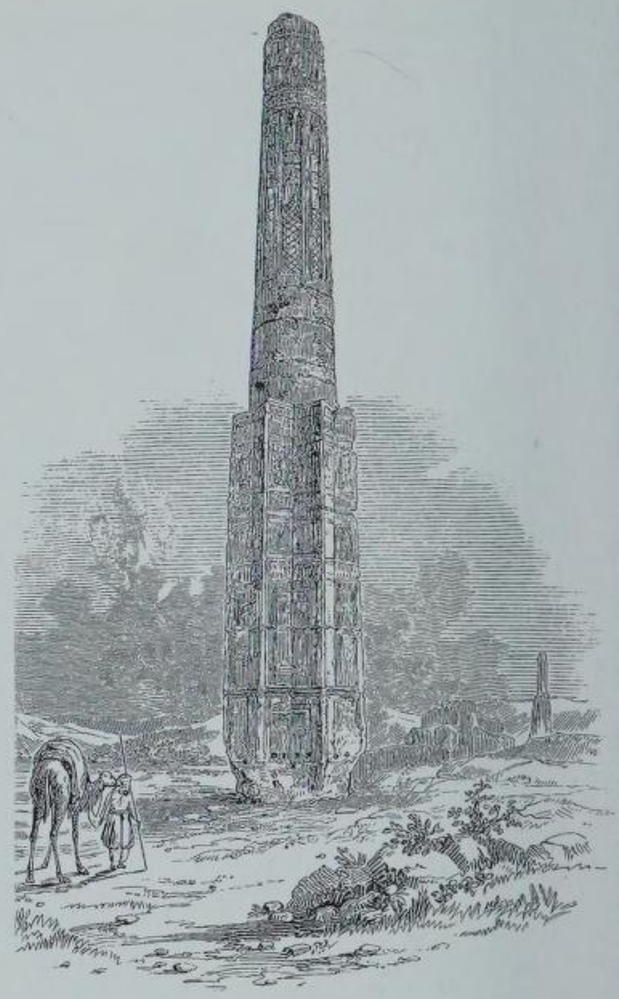
In 1320 Ala-ud-din's governor of the Punjab, Ghiyas-ud-din Tughlaq, founded a new Turkish dynasty. Though his resources were diminished in mollifying the Turkish nobility, Ghiyas-ud-din maintained the imperial pretensions of his great predecessor until his career was cut short in 1325 by his grandiloquent son, Muhammad. To replenish his treasury the new sultan increased the tax on agriculture but this provoked a peasant revolt and was cancelled. To recoup lost gains in the Deccan he moved the capital – and its population – from Delhi to Devagiri (renamed Daulatabad) but the resources of the new seat proved inadequate and this project too had to be abandoned. With it went the Sultanate's aspirations to Subcontinental dominion. All Muhammad's horrific sanctions proved ineffective against dissension in a far-flung empire without a generally accepted ethos. The governor of the Deccan, Zafar Khan, took advantage of the sultan's reverses to assert his independence as Bahaman Shah, with his capital at Gulbarga, and his Shi'ism aligned him with Persia. Under Ilyas Shah, rich Bengal was lost too. Denounced by the clergy and increasingly deranged, Muhammad died campaigning in Sind in 1351. The clergy elevated his tractable cousin Firoz Shah (died 1385) in return for concessions that left the sultan without adequate material or moral resources to meet any real challenge to his authority.

Meanwhile, in 1336, two Hindu brothers from a minor feudality of the Yadavas, taken captive to Delhi by Ala-ud-din but sent back after conversion to Islam to assert the sultan's authority, established a kingdom at Hastinavati (Hampi) on the upper reaches of the Tungabhadra in the Deccan. Ruling in turn as Hari-Hara I and Bukka I, they set about building a new capital which was to be called Vijayanagara in honour of their new dynasty's victories. Enriched through control of the spice trade, backed by sound administration and public works, the rulers of Vijayanagara forged the last great Hindu empire in southern India. Given the economic power and political influence of the temple authorities, generally the largest landowners in the predominantly rural South, empire building went hand in hand with a prodigious amount of temple building and rebuilding.

The Hoysalas, undermined by the Muslim incursions, finally fell to Vijayanagara in 1346 but expansion to the north was blocked by Warangal and Gulbarga. Seeing himself as the heir to the Delhi Sultanate in the South, the Bahamani sultan's ambitions ran exactly counter to those of Vijayanagara. In their protracted conflict, initiated in 1358 and conforming to hoary tradition, Vijayanagara ultimately gained the upper hand under Krishna Deva Raya (1509–30). This enlightened ruler saw advantage in sustaining the weakened Bahamanis in Bidar – their capital since 1429 – rather than leaving them prey to their provincial governors. Only eight years after his death, however, factional rivalry in Bidar finally disposed of the Bahamanis. The successor states – Bidar, Berar, Ahmadnagar, Bijapur, Golconda and Khandesh -united against Vijayanagara and destroyed it in 1565. The renewed conflict, sapping the strength of both sides, left them prey to the Mughal power from the north which had overcome the Sultanate itself.

Self-appointed scourge of the Tughlaqs, the Turkish-Mongol Timur inflicted devastating raids on the ephemeral successors of Firoz Shah and to these the dynasty succumbed in 1398. Under these circumstances around the turn of the 14th century, a succession of provincial governors had asserted their independence: Ahmad Shah had created the kingdom of Gujarat with its capital at Ahmadabad in 1411; Dilawar Khan Ghuri made himself sultan of Malwa in 1401 and his powerful successor, Hoshang Shah, established an imposing new capital at Mandu; Malik Sarwar, declaring himself Sultan-as-Sharq (King of the East) at Jaunpur in 1394, embarked on the ambitious policy of supplanting the sultanate itself. The Rajputs reasserted themselves too: Hamir, a Sisodia Guhila Rajput prince who had survived Ala-ud-din's siege of Chittor, recaptured his ancestral seat and founded the state of Mewar which was soon to achieve eminence under the great Rana Kumbha; Rawal, a Rathor Rajput prince, carved out the kingdom of Marwar west of Mewar and his great-grandson Jodha established its capital at Jodhpur in 1459; the Bhattis of Jaisalmer maintained their not inconsiderable power based on the control of trade across the Thar; the Tomaras re-emerged at Gwalior and survivors of the Chahamanas shared eastern Rajasthan with the Kachchhwaha Rajputs of Amber. Cadet branches of the main families were to form many other principalities in the area which, despite their pretentious rivalries, survived to modern times. Meanwhile the vanguard of European colonialism appeared in 1498 with the arrival of the Portuguese seeking both the circumvention of Muslim-controlled trade routes and converts to Christianity. Established in Goa by 1510, they soon succeeded in dominating the Indian Ocean.

Though the Sultanate subsisted for a century after the fall of the Tughlaqs and the dismemberment of their empire, its failure was manifest. Continually at war, it was dependant on land tax and troops raised by ambitious provincial governors and the incessant rivalry between the Turkish and Afghan faction at court inhibited strong direction. The faith promoted by the new rulers was not as cohesive a force amongst them as might have been expected, given each faction's sense of racial superiority, but it reinforced the posture of studied



170. The triumph of Islam: the victory *minar* of Mahmud of Ghazni, Afghanistan.

aloofness maintained by them all and provided a common basis for their claims to privilege. The Sunni clergy rivalled the *brahmins* with their exclusiveness and higher education – generally the preserve of the *madrasa* as of the temple – perpetuated sectarian division in the upper orders. The Muslim community at large, however, consisted mainly of former Hindus converted not by force but by itinerant holymen (*sufis*) – like Nizam-un-din Aulia of the Delhi region – who fitted so well into the pattern of established religious life. The converts retained many of their traditions. Vocational training remained in the hands of the artisans and it is their work, particularly building, that the synthesis between Indian and Islamic culture is most apparent – the Islamic component being largely Persian.

The Tughlaqs were replaced by Timur's nominee but his undistinguished Sayyid dynasty hardly did more than sustain the Sultanate in Delhi until 1451 when it was despatched by Bahlol Lodi, an Afghan chieftain recognized as *primus inter pares* by his compatriots. Bahlol's successor Sikandar (1488-1516) – who moved the capital to Agra – managed to reassemble something of an empire in north India but his son Ibrahim pretended to absolute power and alienated his principal supporters. Following precedent, his adversaries appealed to the Timurids. Babur, a prince of Timur's house who traced his descent back to the great Mongul Ghengis Khan, responded.

Dispossessed of his inheritance in central Asia but forging a kingdom in Afghanistan, Babur swept into India and despatched the sultan at Panipat in April 1526. Occupying Agra, he consolidated his hold but several of his erstwhile supporters and opponents, awaiting his return to Afghanistan, sought their fortunes on the periphery of the former sultan's domain. One of them was Rana Sanga of Mewar: expecting to be chief beneficiary of the fall of the Lodis he had forged a confederacy of Rajputs to support Babur but, failing to be present at Panipat, he turned on Babur and lost the day. Another, the Afghan chieftain Sher Khan Sur, established himself in Bihar, biding his time to counter the triumph of the 'Mughals' – as Babur and his followers were called in India.

Babur died in 1530, far from having completed the pacification of dissident elements and the forging of imperial institutions dependent on a strong monarchy. His son Humayun made a good start in campaigns against Malwa and Gujarat – the former weakened in conflict with the latter, the latter undermined by the Portuguese. Despite considerable talent, however, he was lost to indolence at Agra and Sher Khan, seizing his chance, dispossessed him in 1540. Sher Shah, now, succeeded where Ibrahim Lodi had failed in asserting strong monarchical authority over the other Afghan leaders and, where Humayun had failed, in formulating a sound imperial administration. For the latter he was inspired by the Safavid regime in Iran – of which Humayun and his followers were gaining first hand experience in exile at the court of Shah Tahmasp. Sher Shah died in 1545 and his heir succumbed to the old Afghan rivalries. With Persian aid – but resentful at his treatment in Persia – Humayun struck home and finally defeated the major Afghan faction in 1555. Hardly six months after re-entering Delhi he died from a fall in his library (the 'Sher Mandal'). 265(b)

Humayun's heir, Akbar (1556-1605) – born in exile and only thirteen on his father's death – survived to demonstrate his worth thanks to his exceptionally able guardian, Bairam Khan. Brusquely assuming the government himself on his majority, Akbar spent the next forty years expanding his power with outstanding generalship and consolidating it with enlightened policies. First, but not without difficulty, he dealt with the Rajputs, recapturing their key fortresses of Ranthambhor and Chittor in 1568-69 and reducing the Rana of Mewar – the only Rajput to refuse acknowledgement of Mughal supremacy – to the rocky enclave of Udaipur. Gujarat was finally subjugated in a dramatic campaign in 1573, Bengal fell the next year, Kashmir a decade or so later, Orissa in 1592 and Sind, Baluchistan and Kandahar by 1595. Pursuing the integrity of India – though the northern plains were a more convincing entity – Akbar then turned his attention to the Deccan. The dynasty took a century to absorb it: by Akbar's death Berar and Khandesh had fallen; part of Ahmadnagar was won by Jahangir (1605-1627) in 1616, the rest by Shah Jahan (1627-1657) in 1632; by 1687, finally, Aurangzeb (Alamgir, 1657-1707) had overcome Bijapur and Golconda, which had themselves broken Vijayanagara in 1565. It was only to the peripheral parts of that last great Hindu empire and its coastal satellites that the writ of the imperial Mughals was never to run.

If Sher Shah had draughted the blueprint for imperial administration on the Persian model, Akbar constructed the edifice, personally contributing much to the exercise. Offices in the imperial service rotated in accordance with a hierarchy of command (*mansabdar*). Authority in the provinces was divided between the revenue collector and the executive officer, each working directly to the emperor and his council who moved between Delhi, Agra – or, briefly, Fatehpur Sikri – and Lahore. Under Akbar, office holders were remunerated in revenue from land-holdings which were non-hereditary and, indeed, changed periodically but his successors found this difficult to sustain. Revenue was increased greatly in the second half of the 16th century by measures encouraging the development of agriculture and trade – not least the improvement of communications – but the non-hereditary principle left little incentive for the amassing of great family legacies. Prestige required more and more display, the nobility emulating the monarch in prodigality – and few have been more prodigal, especially as builders, than the Great Mughals.

Akbar cemented his edifice by mollifying the Rajputs. They were left largely autonomous in their own domains, their nobility was acknowledged, they were invested with

imperial honours and privileges, given parity with Muslims in the imperial service and even admitted to the inner circle of the emperor's advisors. As a potent gesture of good faith Akbar took a Rajput bride who bore him his heir. For his part the emperor derived from his compromise with the Hindu establishment an aura of sanctity inspired by the indigenous imperial tradition and, indeed, his whole approach was symptomatic of his highly unorthodox attitude to Islam. He promulgated a new syncretic faith, the *Din-Illahi*, in which Zoroastrianism played an important part and to which the cult of the monarch was central. This provoked the unsuccessful revolt of the orthodox as early as 1581 and the *Din-Illahi* was not sustained by his successors though none of them, not even the austerely orthodox Aurangzeb, shed the aura of monarchical divinity. The most obvious expression of Akbar's syncretism was the synthesis in painting and architecture between the Persian forms brought back by Humayun and his suite and those traditional in India – though Persian was accepted even by the Rajputs as the language of court and diplomacy and Persian manners and ceremonial were equally widely adopted.[1]

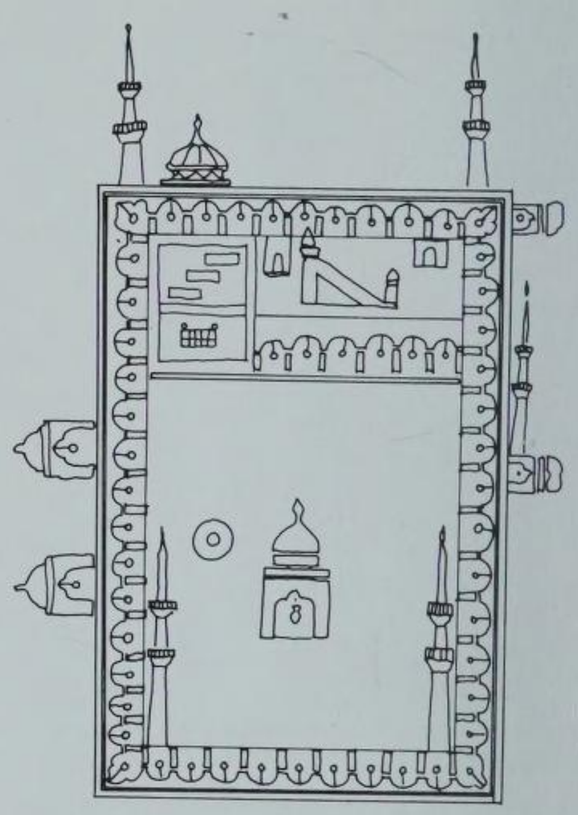
Islam and Muslim Building Types

The fundamental Islamic dogma is the unity of God (Allah) and the finality of the prophethood of Muhammad – His chosen one who lived from c.570-632. The essence of God is inapprehensible and knowledge of Him depends upon the ninety-nine names which He gives Himself in His revelations. The supreme revelation is the Koran, dictated to Muhammad. As the book of Law, the Koran spells out the conditions for submission (*islam*) and the consequent moral obligations of the believer (*muslim*), the Five Pillars of Islam : affirmation of the Creed, prayer, fasting, alms-giving and pilgrimage.

It is the requirements for prayer that constitute the prime progenitor of architecture in Islam. The Koran prescribes a precise ritual, including prostration on a mat protecting the worshipper from the impurities of the ground, for individual prayer five times daily and congregation prayer at noon on Friday. Orientation was dictated by the designation of Mecca – the place of Abraham's sacrifice and Muhammad's birth – as the axis of prayer (*qibla*) marked by the cubical Kaaba which stands for the first building dedicated to God, by Abraham's son Ismail. While formal provision is often made for the modest area required in individual or family worship, the principal place of worship (mosque or *masjid*) must accommodate the considerable number of mats involved at community level in the Friday (*juma*) noon prayers (hence the *juma-* or *jami-masjid*). In an enclosure defending sanctity, the predominant element is the wall along the side facing Mecca in which the *qibla* is articulated by a central apsidal recession (*mihrab*). Offsetting this, the principal vertical element is a tower (*minaret*), often repeated at salient points, from which the Muslim is called to prayer. An ablution tank in the court, a lectern for the Koran and a pulpit (*minbar*), to the right of the *mihrab*, are the essential furniture.[2]

Fleeing from the hostile inhabitants of Mecca in 622, the Prophet settled in Medina and founded a mosque on the basis of the ubiquitous courtyard house – in fact an adjunct of his own house. A verandah formed of palm trunks provided cover for a limited number of worshippers before the main hall and a shelter for the Prophet's homeless followers was erected on the opposite side – ensuring that the court would retain its social significance as well as catering for the new religious activity. Originally the *qibla* was orientated towards Jerusalem but in 624 the Prophet re-orientated it towards Mecca to distinguish the Muslim from Jew and Christian. There was no *mihrab* until the Prophet's mosque was rebuilt by the Umayyad successor to Muhammad's authority (*caliph*) in 709, the direction of Mecca previously being indicated by a small stone cube representing the Kaaba. The Prophet's living quarters became his tomb.

The pre-eminence of the Prophet's mosque as a model hardly needs explaining. Virtually all subsequent *jami-masjids* have had a court with shelter for worshippers on the *qibla* side and for itinerants opposite it, diversity of form resulting primarily from the treatment of the shelter. As Muslim builders followed their conquering leaders around the Mediterranean, adapting Christian and Antique buildings or re-using materials pillaged from them, this shelter developed into an arcaded or colonnaded hall several bays deep, the outer range or ranges (*riwaqs*) usually returning around the other sides to provide cover for the needy. A monumental expression of the *mihrab*, usually a great domed chamber (*qubba*), was sometimes interpolated in the prayer hall further to distinguish the *qibla*.[3]

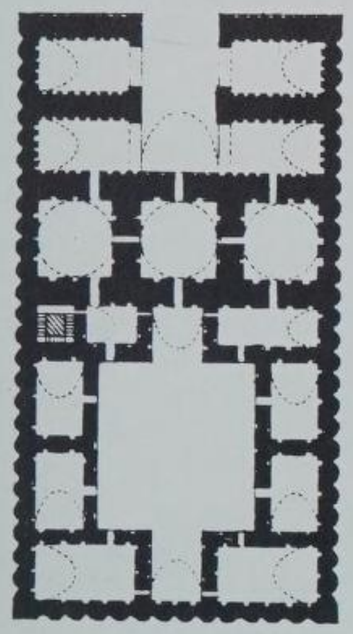


171. Medina, The Prophet's Mosque (after a 16th-century miniature)

The mosque derived from a pre-Islamic secular precedent and so too did the other building types which served the developing institutions of Islam. In the area with which we are concerned, the principal source is the great series of palaces from Firuzabad to Ctesiphon in which 3rd- to 6th-century Sassanian rulers developed the *iwan* form bequeathed by the Parthians. In the regular composition of Firuzabad, which owes not a little to familiarity with the outposts of Rome, the *iwan* is predominant and beyond it the principal space is a domed chamber – the *qubba* of the four-square *chahar-taq* adopted for Zoroastrian fire-temples and, later, for mosques. Often blind except for the great *iwans*, as at Ctesiphon, the richly articulated multi-storey facades are reminiscent of Roman *scaenae frons*.

The Muslims came into this inheritance when the Abbasid Caliphate established itself at Baghdad, within the sphere of the venerable Mesopotamian and vital Persian cultural traditions. Little remains of Abbasid Baghdad, but the substantial ruins of the 8th and 9th century Caliphate palaces at Ukhaidir and Samarra clearly reveal the influence of their Sassanian predecessors. At Ukhaidir symmetry is disrupted

172 (a)



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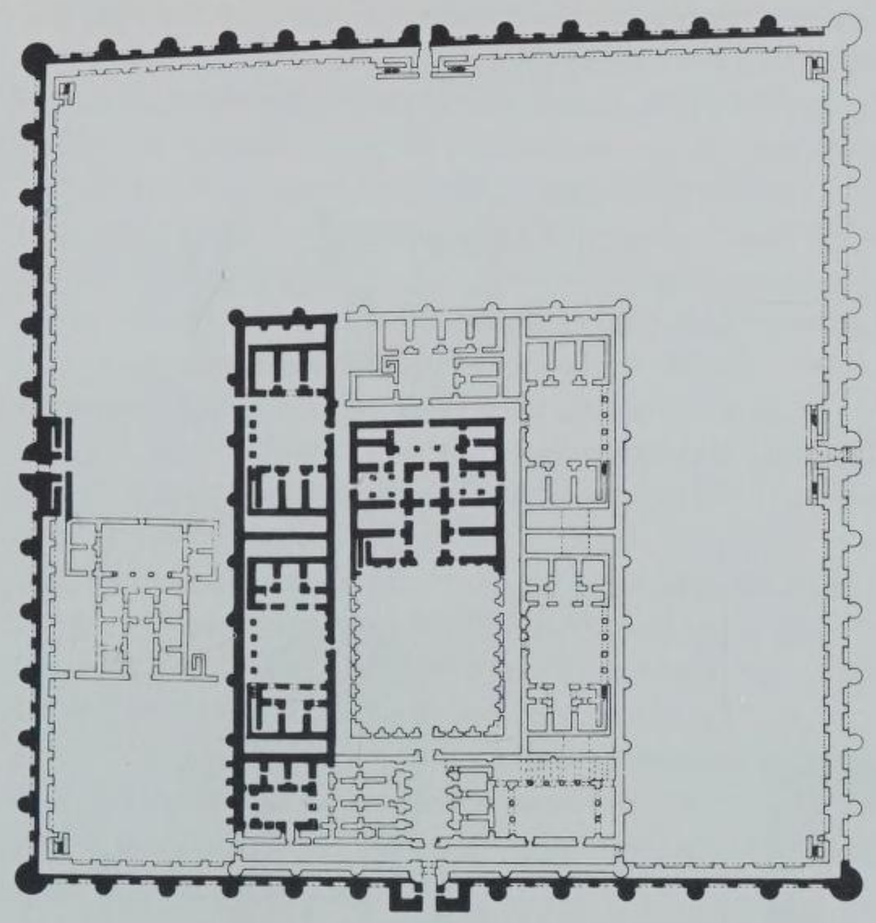


172 (b)

172. Sassanian and Abbasid palaces: **(a)** Firuzabad, plan (1:2000); **(b)** Ctesiphon, elevation; **(c)** Ukhaidir, plan (1:2000).

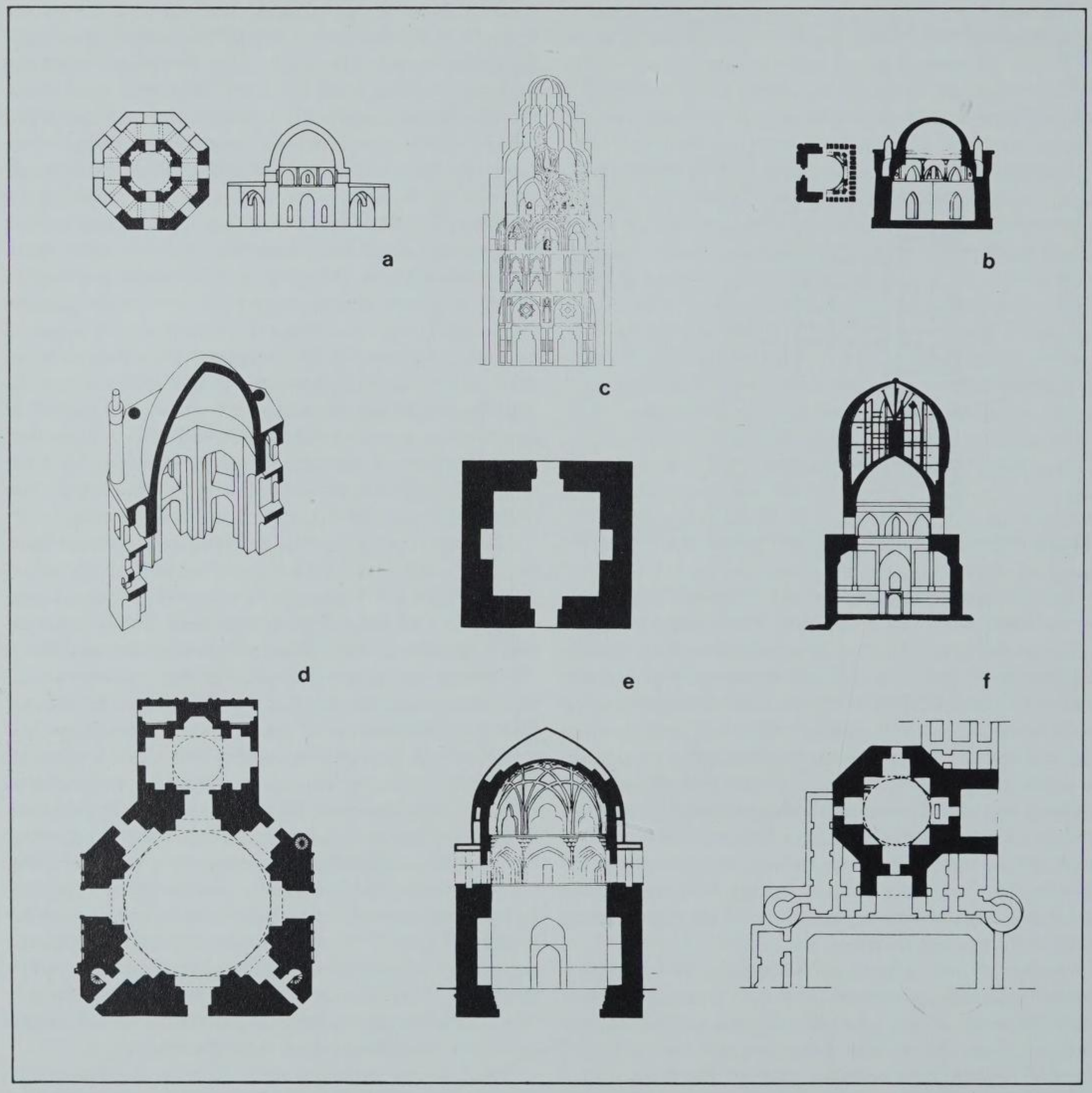
only by the placing of a mosque to the right of the entrance in a heavily defended rectangular compound. Along the principal axis the sequence of grand ceremonial spaces embracing vaulted halls with domed anti-chambers and a vast open court, isolated by corridors, culminates in a great *iwan* for public audience. Behind this is a square chamber but at Samarra four great rectangular halls form the arms of a cross about a central square. In accordance with the ubiquitous Oriental tradition, self-contained suites about private courts fill out the compound. The same basic formula was still current in the 11th century when the imperial Ghaznavids built the palace at Lashkari Bazaar, though there the entrance hall is cruciform and the great *iwan* is backed by a square chamber.

Decorated with plaster relief, mosaic or elaborately patterned brickwork (*hazarbaf*), Abbasid structures were predominantly arcuate. Semicircular pointed and cusped arches appear at Ukhaidir, horseshoe and flattened four-centred ones simultaneously elsewhere. From Sassanian times the largest halls were sometimes vaulted over massive transverse arches – a late example of the type is the Han Ortmah of 14th-century Baghdad. Apart from multiple domes, trabeated structures covered the largest areas, as in the great mosque of Samarra, and the multi-columned *talar* continued the tradition of the *apadana* – especially, no doubt, in the imperial expressions of Il-Khanid tent-palace encampments, known only by repute.

Teaching, always the prerogative of the mosque, was catered for after the 10th century in a special collegiate building (*madrasa*). Originally merely the house of the teacher, the characteristic domestic arrangement of rooms around a court had been formalized by the mid-11th century under the Abbasids' Seljuk successors. The cells around the quadrangle were interrupted on the *qibla* and at one or more axial points by an *iwan* for prayer and to accommodate classes in one or more of the four schools of law promoted by the Seljuks. The monumentality of the *iwan* recommended it for adoption as the central feature in mosque design too. Four *iwans* appear perhaps first in the late-11th century Seljuk rebuilding of the Jami-masjid at Isfahan where the principal *qubba* is masked by the predominant *qibla iwan*. Minarets were often to be incorporated in the design of a frontispiece (*pishtaq*) to frame the *iwan* – at first perched on its top. In accordance with earlier Islamic practice, well represented at Samarra, a tradition of constructing monumental free-standing minarets culminated in the commemorative *minars* of the Ghaznavids and Ghuris at Ghazni and Jham, not surprisingly the principal source of inspiration for the builders of the Delhi Sultanate.[4] 170

Islam requires burial for the dead, the body being laid flat with the face turned towards Mecca, if possible in a vaulted chamber allowing the incumbent room to sit up when called to account. The grave is marked at ground level by a recumbent stone, reflecting the position of the body below, inscribed with the ninety-nine names of God. One tradition claimed that the grave should be left open to the sky but the embellishment of the burial places of *sufis*, considered meritorious by their followers, led to the erection of increasingly elaborate shelters, often in the form of canopies after the precedent set at the supposed grave of the first Caliph, Ali. Others, wishing to be buried within the orbit of 'Benign Influence' (*baraka*), provided themselves with tomb-chambers associated with the grave of a holy man. Endowers of mosques and *madrasas*, another source of merit, often had a tomb incorporated in the design and from this it was but a short step to the free-standing mausoleum. In this case *baraka* was provided by the setting, the four-square garden (*chahar bagh*). This is the microcosm of Paradise in accordance with the ancient Persian ideal of Order to which the Koran's Eden is related: an enclosed square divided into four quarters by four rivers flowing in the cardinal directions from the source of the Waters of Life in the centre.

The earliest surviving Muslim tomb is the Qubbat al-Sulaybiya of the Caliph al-Muntasir (died 862) at Samarra. It provided one of the two basic prototypes for the Muslim tomb, the so-called 'canopy' form admissible of a limited number of variations. Integrating square and octagon in development of the plan of the Dome of the Rock in Jerusalem, it has a single octagonal ambulatory about a *qubba*. Each side is pierced with pointed arches and to conform at least conceptually with traditional strictures against enclosure, all the arches are open. Amongst the Qubbat's most significant successors is the sumptuous mausoleum of the Il-Khan Oljeitu at Sultaniya with its elevated arcaded galleries providing deep relief to the interior and upper exterior and 173(a) 173(d)



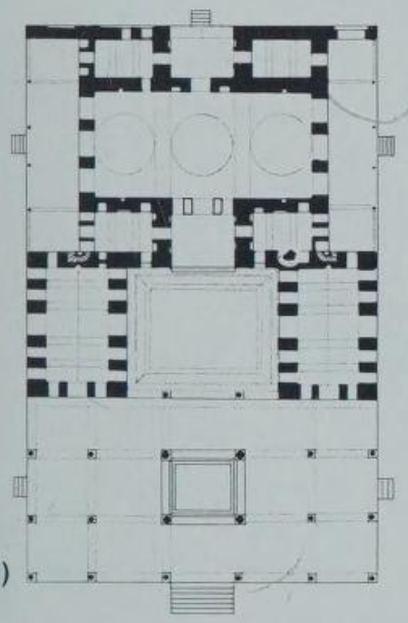
173. Muslim tombs, plans (1:1000) and sections: **(a)** Samarra, 'Qubbat al-Sulaybiya'; **(b)** Bokhara, Ismail the Samanid; **(c)** Samarra, Dawr, Muslim ibn Kuraisb and the son of the fifth Imam; **(d)** Sultaniya, Il-Khan Oljeitu; **(e)** Merv, Sultan Sanjar; **(f)** Samarkand, 'Gur-i-Amir'.

eight minarets surrounding its blue glazed, helmet-shaped dome.

The earliest surviving representative of the other basic approach is the mid-10th century Samanid mausoleum at 173(b) Bokhara. The *qubba* is free-standing, as in the Zoroastrian *chahar taq*, and enclosure is denied on all four sides. The stoutly battered mass of vigorously patterned brickwork, relieved at the corners with cylindrical piers and tiny stilted domes, is pierced on each side by an *iwan*. Amongst the more important later examples of this square type is the mid-173(e) 12th century mausoleum of Sultan Sanjar at Merv with its semi-double dome, relieved inside by a network of ribs running between every second and every fourth pier. An earlier variant is the tomb of a late-11th century *imam* at Dawr near Samarra in which the dome is replaced by an 173(c) accumulation of superimposed squinches (*muqarnas*) over an octagonal plan. 'Honeycomb' squinches soon appeared in the *iwan* frontispiece then becoming popular in all fields of Islamic architecture in Iran. Covered in brilliant tile work these were to provide perhaps the most characteristic features of that great tradition.

The depleted remains of the mosques and *madrasas* of

the Timurids, whose intervention in India was so decisive, and of their Safavid successors who sheltered Humayun, reveal the influence of their predecessors in distribution and form. The gigantic scale of such works as Timur's Kesh (Shahr-i-Sabz) palace or Bibi Khanum's mosque in Samarkand was anticipated under Oljeitu in the Tabriz Jami-Masjid. *Qibla* frontispieces usually have integrated minarets rising from the ground, domes tend to be bulbous and the former often obscure the latter despite enhanced drums. Moreover, superimposed squinches proliferate in arches in addition to interlaced ribs developing net-like zones of transition and far more surfaces than heretofore were covered with geometrical or floral patterns in predominantly blue glazed tiles. The most important mosques and *madrasas*, displaying these features – like the works of Gawhar Shad at Mashad and Ulugh Begh at Samarkand – are rigorously symmetrical with four *iwans* on the principal axes of a square court. The most important Timurid tombs, like the Gur-i-Amir of Timur himself at Samarkand – consist of *iwan* and *qubba* with a semi-bulbous, ribbed outer dome rising over a high drum and an exaggerated inner cavity. 173(f)



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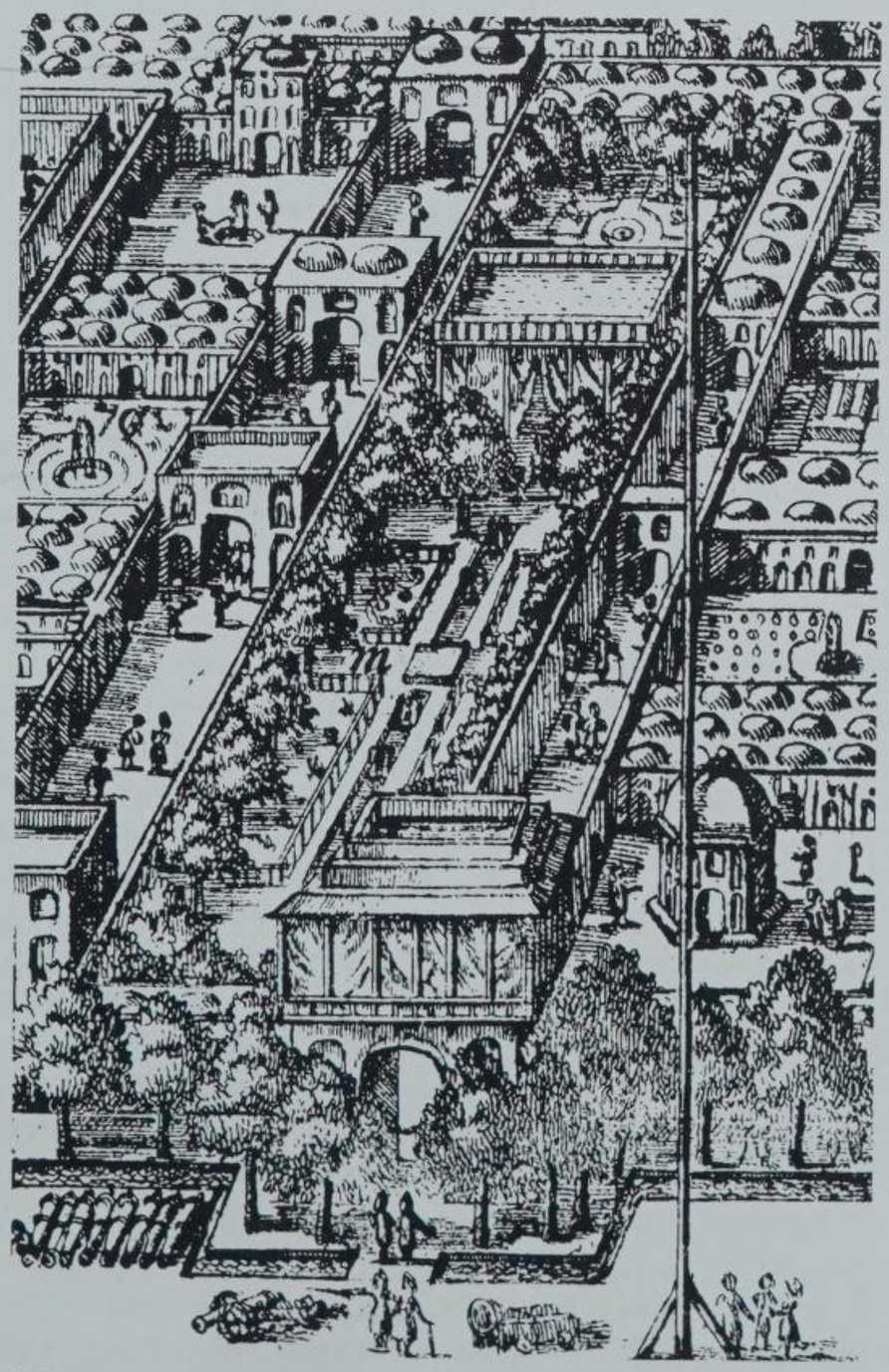


174 (c)

174. Isfahan, Safavid palace buildings: **(a)** *chihil sutun* (*talar*) of Shah Abbas (1:1000); **(b)** *hasht behisht* of Shah Suleiman (1:1000); **(c)** engraved view with Ali Kapu centre foreground.

Later Timurid and early Safavid builders of works like the mausoleums of Khwaja Abu Nasir at Balkh (c.1460) and Mullah Hassan at Sultaniya (c.1530) revised the octagonal form of Oljeitu and projected the great internal arcade onto the exterior. This approach had its secular expression in a pavilion added c.1468 to the Tabriz palace of Uzun Hassan and the slightly earlier 'Tareb Khana' at Herat which Babur and other contemporary observers described as having four subsidiary chambers on the diagonals in addition to vestibules on the main axes (hence *hasht behisht* – 'eight paradises'). The *hasht behisht* added to the Isfahan palace by Shah Suleiman (1666-94) presumably recalls its greater predecessors.

The Spanish ambassador to Timur's court, Gonzales de Clavijo – and Babur – left a description of Timur's Shahr-i-Sabz palace in terms which recall the Ghaznavid palace at Lashkari Bazaar. A great gate-house with guard-room led to an arcaded court with at least three *iwans*, the largest in the centre opposite the entrance leading to a magnificent hall surrounded by six storeys of chambers and backed by further courts with more private chambers. On the other hand, Babur describes the most celebrated element of Timur's Samarkand palace, the *chihil sutun* ('many columned' pavilion) of the Bagh-i-Maydan, as square with corner towers and four portals of two storeys which led to a cruciform central hall. The palace as a whole seems to have consisted of a succession of walled *chahar baghs* with canals and similar pavilions. Clavijo relates the scheme to the tent palaces which housed the monarch on his campaigns.

Little of substance survives of Timurid or early Safavid palaces but the Samarkand retreat of Ulugh Beg and the Qazvin residence of Shah Tahmasp (1524-76), who took Humayun and his suite to visit Persepolis, are known to have had *talars* called *chihil sutuns* because of their many columns – a logical development of the towered *apadana*. In the Chihil Sutun and Ali Kapu of Shah Abbas at Isfahan, still more in the *hasht behisht* of Shah Suleiman, the interior depended for much of its effect on intricate mirror inlay – a medium which played an equally scintillating role in the *shish-mahals* of the Great Mughal in India.

Fortification

Fortifications built by Muslim powers in the centuries during which they were consolidating their hold on India often reflect developments in the West – notably in the Holy Land of the Crusaders. The isolation of a citadel from a more expansive outwork was highly characteristic. This applied the Norman *motte* and *bailey* principle, itself developed effectively in Palestine by the Crusaders, but beyond that is the venerable practice of establishing a settlement under the protection of a naturally defensible eminence – as familiar to ancient Indian theorists as to early practitioners from Mohenjo-

Daro to Mycenae. Descended from the *motte*, the great rectangular keep or *donjon*, common in France and England, provided a last resort against external assault or internal treachery. It was sometimes isolated within a *bailey* behind concentric rings of ramparts but the trend was to transform it into a massive towered structure integrated with the main line of defence. The successive ranges of walls were tiered for maximum coverage in depth. Not to hinder marksmen manning the parapets, the holes in the wall-walks (machicolations), through which missiles could be dropped on would-be sappers, were grouped behind boxes or hoods which projected at regular intervals rather than continuously around the curtain.

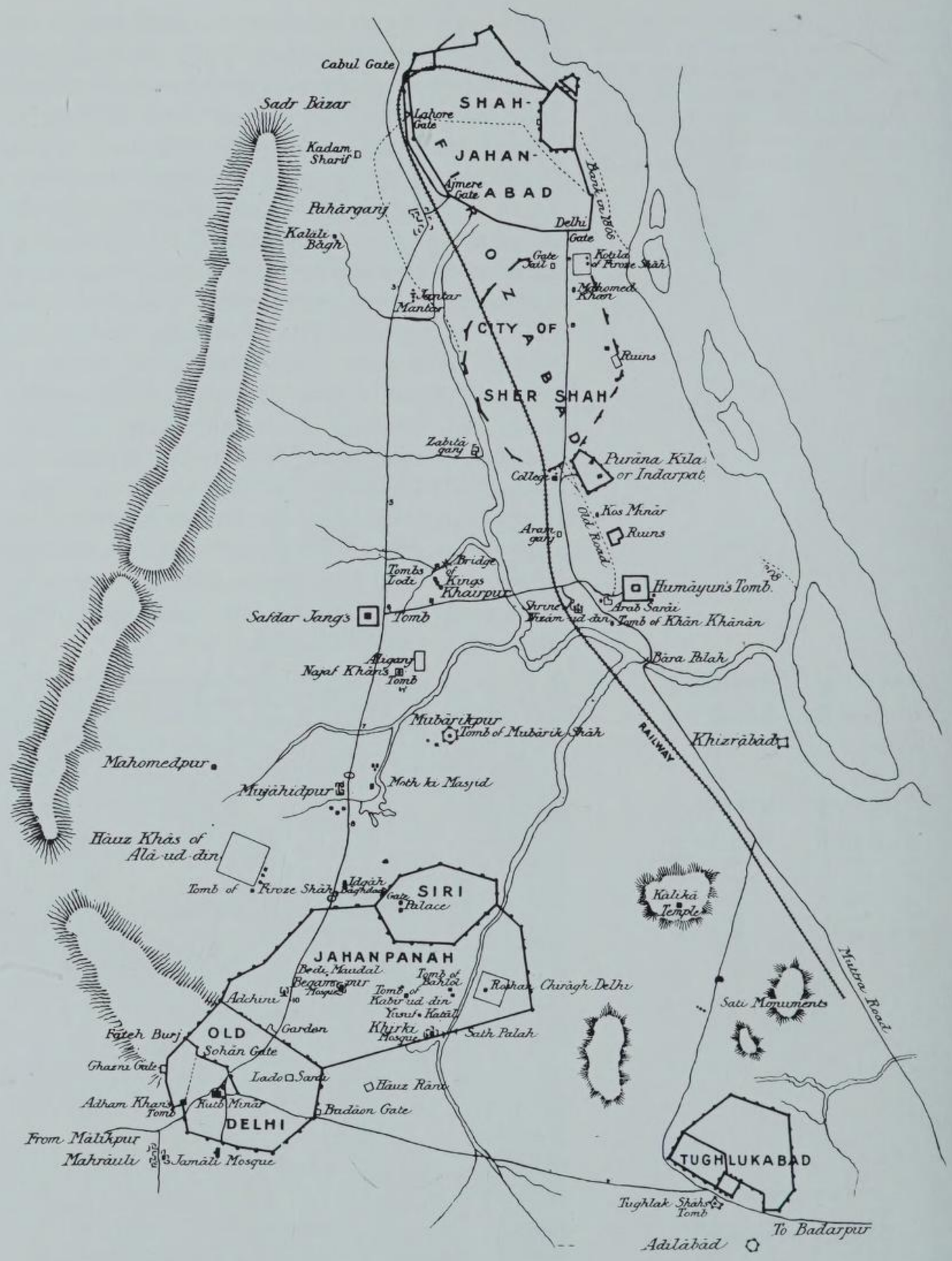
The use of artillery in Europe from the 14th century changed the nature of fortification fundamentally there and in western Asia. The height and thickness of walls had formerly been crucial but it was gradually realized that they had to be brought low and sunk into ditches to present a minimal target and to give their canons command of the level approach. Instead of missiles hurled forward from a great height, now saturation coverage by cross-fire was essential. With steady improvement in the range and accuracy of fire-arms, bastions covering one another had to be pushed further out. Thickness was greatly increased, often by massive battering, but the curved forms effective against sapping were replaced by angular ones to deflect shot.[5]

Seat and Sanctuary before the Mughals

The Delhi Sultanate

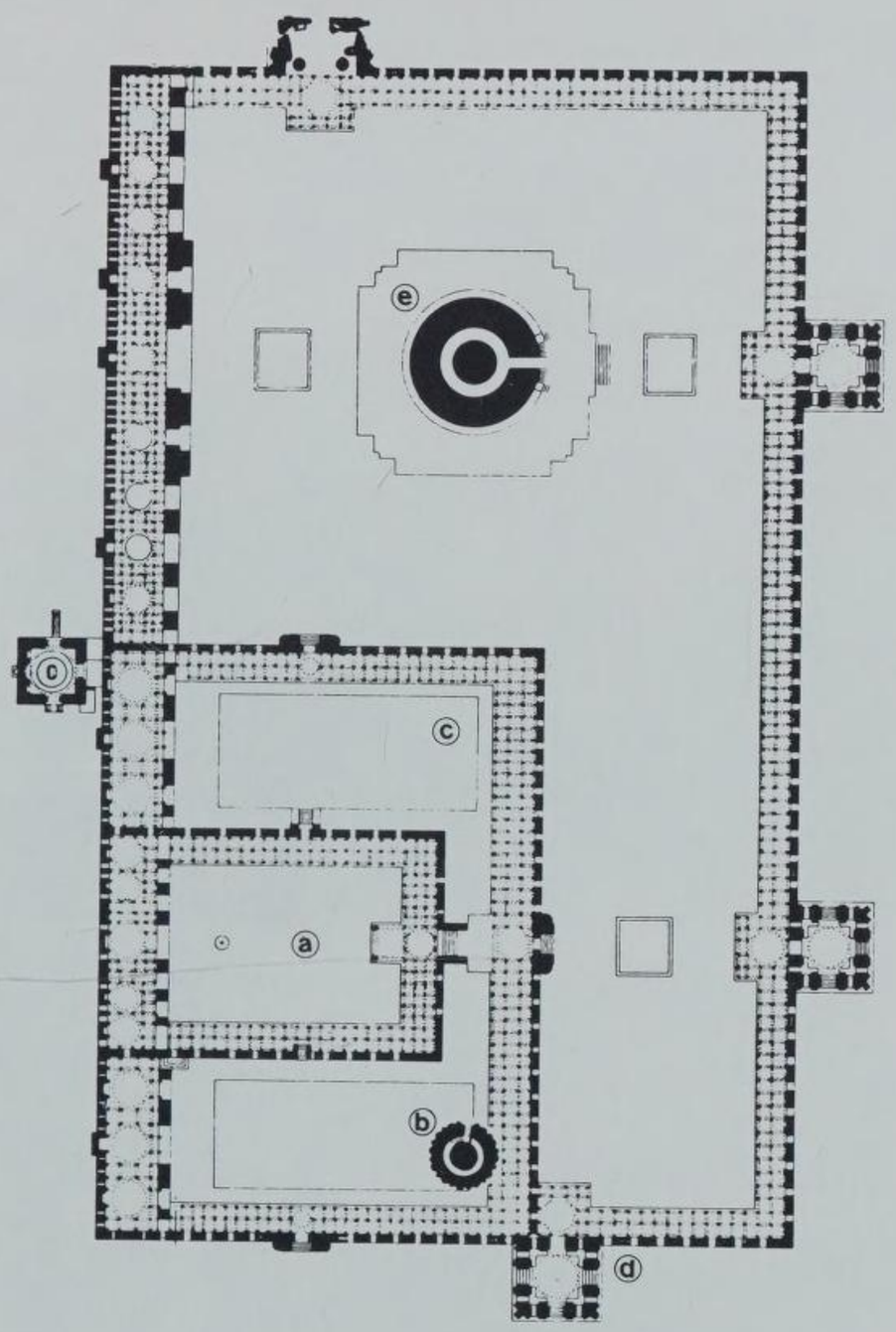
Delhi is celebrated for its 'Seven Cities'. There have in fact been more than twice that number including the great new capital of British India. From the epic age of the Aryan Invaders, the Indraprastha of the Mahabharata, to that of the quasi-imperial Chahamanas' Lal Kot and Qila Rai Pithora, there were at least five – all wiped out by the Yamuna's fickle course or the quarrying of their successors. This is what happened to the last Hindu capital, Prithviraj III Chahamana's seat, the site of the first capital of his Muslim conquerors. Over the Chahamana temples rose India's first mosque, the
23 Quwwat-ul-Islam ('Might of Islam') and its magnificent tower of victory, the Qutb Minar.

When the Turkish invaders occupied Delhi in 1192, garrisoning Lal Kot under the Amir Qutb-ud-din Aibak, twenty-seven Hindu and Jaina temples were demolished and their materials used in the construction of the Quwwat-ul-Islam Masjid. Shortly after, the same happened in Ajmer for the Arhai-din-ka Jhompra. These, the first monuments of Muslim India, followed the plan of the first mosque of Islam: however, their presumably Hindu masons not only re-used Hindu columns but also followed their own decorative and structural traditions.[6]



175. Delhi: plan (1:100000) showing principal ancient cities.

The expanded platform of the main Hindu temple of Lal Kot provides the Quwwat-ul-Islam's court – the celebrated Gupta iron pillar, at least, remaining *in situ*. In the improvisation of the hypostyle prayer hall and colonnades the lavishly carved Hindu columns – presumably plastered over – were superimposed to raise the reused ceilings to greater height than they would have had originally. An elegant facade of five corbelled ogee arches was imposed to screen the trabeated prayer hall but the taller *qibla* arch rises higher than the superimposed piers behind. It is clearly the work of



176. Delhi, Quwwat-ul-Islam plan (1:2000): **(a)** Qutb's mosque; **(b)** Qutb Minar; **(c)** Iltutmish's extensions and tomb; **(d)** Ala-ud-din's extensions and Alai Darwaza; **(e)** stump of Ala-ud-din's projected *minar*.

Hindu masons unfamiliar with the true voussoir arch but recalling the horseshoe forms of their ancient tradition. Bands of progenitive *padma*, like those in temple portals, are flanked by bands of Islamic calligraphy.

170 After the specific precedents set at Ghazni and Jham, but in accordance with a tradition in India that may be traced back to the Mauryan 'Pillars of the Law', to the south-east of the Delhi mosque Qutb raised a great minaret – known from comparatively recent times as the Qutb Minar – in commemoration of the triumph of his Muslim order in India. Of red sandstone, grey quartzose and white marble, this is circular in plan with circular and acute-angled projections. Originally there were three storeys marked by balconies carried on *muqarnas* and ringed by broad bands of Islamic calligraphy and Hindu foliage.

Still using Hindu building materials and techniques, Qtub's successor, Illtutmish, extended the Quwwat-ul-Islam's screen by three bays on either end and enclosed the additional courts before them, the southern one incorporating Qutb's great *minar*. In the expanded compound the sultan incorporated his mausoleum. This is a now domeless *qubba* with eight corbelled ogee arches framing the *mihrab* and the open entrances north, south and east and forming semi-domed squinches on the diagonals. Of fine red and grey stone, it clearly depended on the skill of Indian stone sculptors, if not on pillaged materials, for its profuse low relief ornament, though this is largely Islamic in motif.

The tomb of Iltutmish is the first known to have been built for the Delhi Sultanate except for the so-called 'Sultan Ghari' under construction at much the same time for the sultan's son. A novel combination of tomb and mosque, the latter reuses a high Hindu platform and much pillaged material. Its stout enclosure, pierced by a single entrance to the east and with round towers at the corners, has inner colonnades to the east and west with a portico of fluted columns to the large prayer chamber on the *qibla*. The somewhat Doric robust simplicity of these is only enhanced by the Hindu bracket capitals. The low octagonal platform in the centre of the court, perhaps once bearing a cenotaph and canopy, covers the subterranean tomb chamber.[7]

In an extensive campaign of mosque building elsewhere in his domains, Iltutmish most notably transformed the Arhai-din-ka Jhompra at Ajmer. Larger than the Delhi mosque and with colonnades rising through three superimposed Hindu piers to carry a rich variety of cellings, this work has a screen of seven arches incorporating cusped forms: not uncommon in Islamic building elsewhere, Samarra for instance, these are familiar in the flying arches of the Hindu temple from the late Pratihara period, at least, and are particularly appropriate to Indian corbelled construction. The central frontispiece with foliate relief surrounding prayer-mat panels in the spandrels and bands of calligraphy or geometric patterns – but no *padma* bands – was surmounted by minarets in the manner to become popular in Persia. Their surviving stumps, which suggest that they emulated the Qutb Minar in form if not in scale, bear the titles of Iltutmish. Elsewhere native Hindu influence appears in the balconies which flank the main entrance arch and amalakas over the false domes which cover the richly corbelled ceilings.

The later Mamluks left little, strife in the empire and treachery in the palace preoccupying them for most of their reigns or despatching them after reigns too brief for significant patronage. Not surprisingly, their most notable relics are a series of tombs in Multan. On the other hand, Ala-ud-din Khalji (1296-1316) had time to pursue an ambitious programme of monumental building to match his imperial pretensions and his reforms provided the funds.[8]

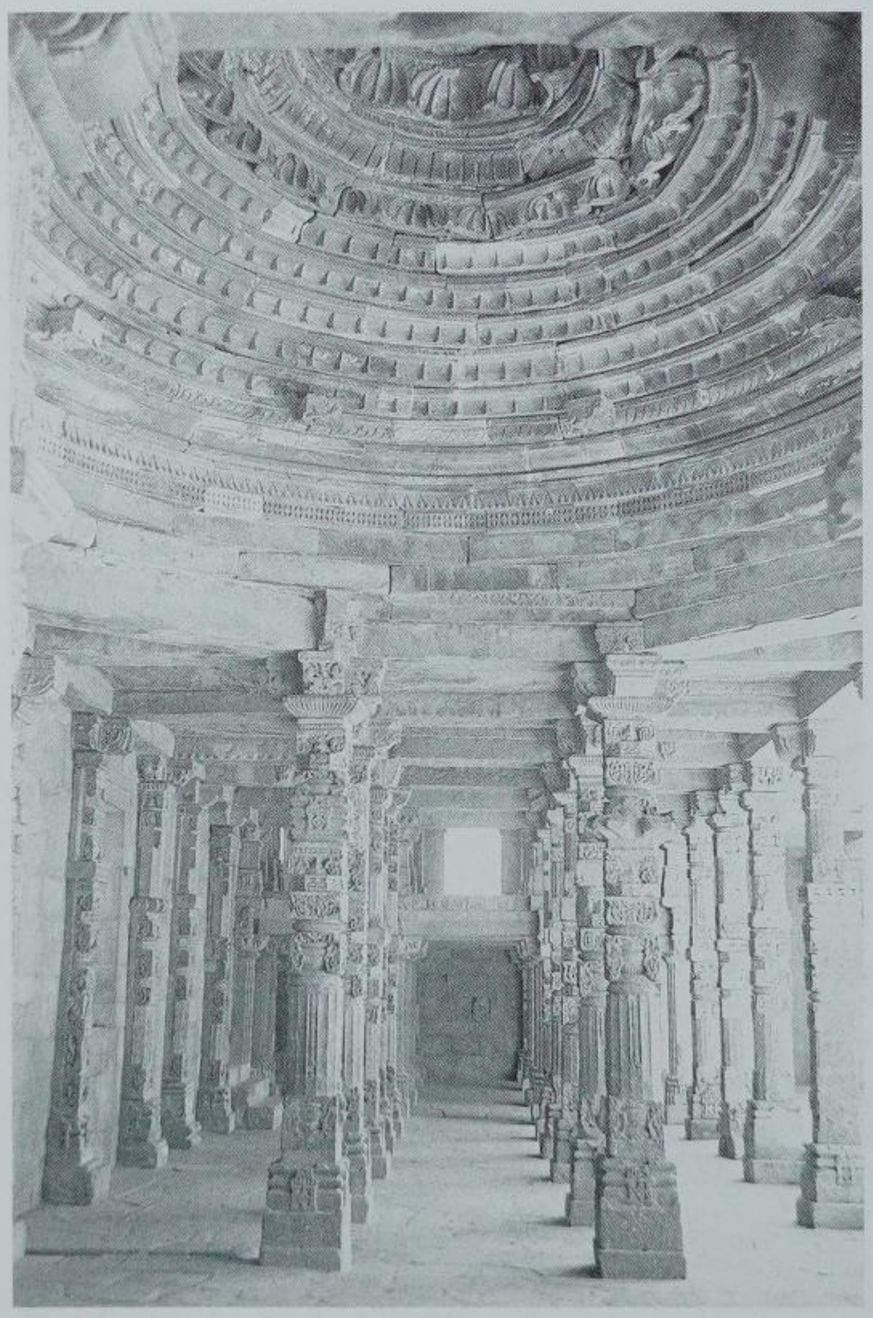
Abdandoning Lal Kot, Ala-ud-din founded a new capital 175
nearby at Siri but of its several mosques and great palace – as of its predecessor – little more than rubble survives: its legendary 'Hazar Sutun' ('Thousand-pillared Palace') was obviously dominated by a great *apadana* or *talar* for public audience, rather than the *iwan* which a ruler from Afghanistan might have been expected to favour, probably because the

177. Delhi, Quwwat-ul-Islam: **(a)** *qibla* screen; **(b)** northern colonnade of Qutb's mosque; **(c)** Qutb Minar; **(d)** tomb of Iltutmish.

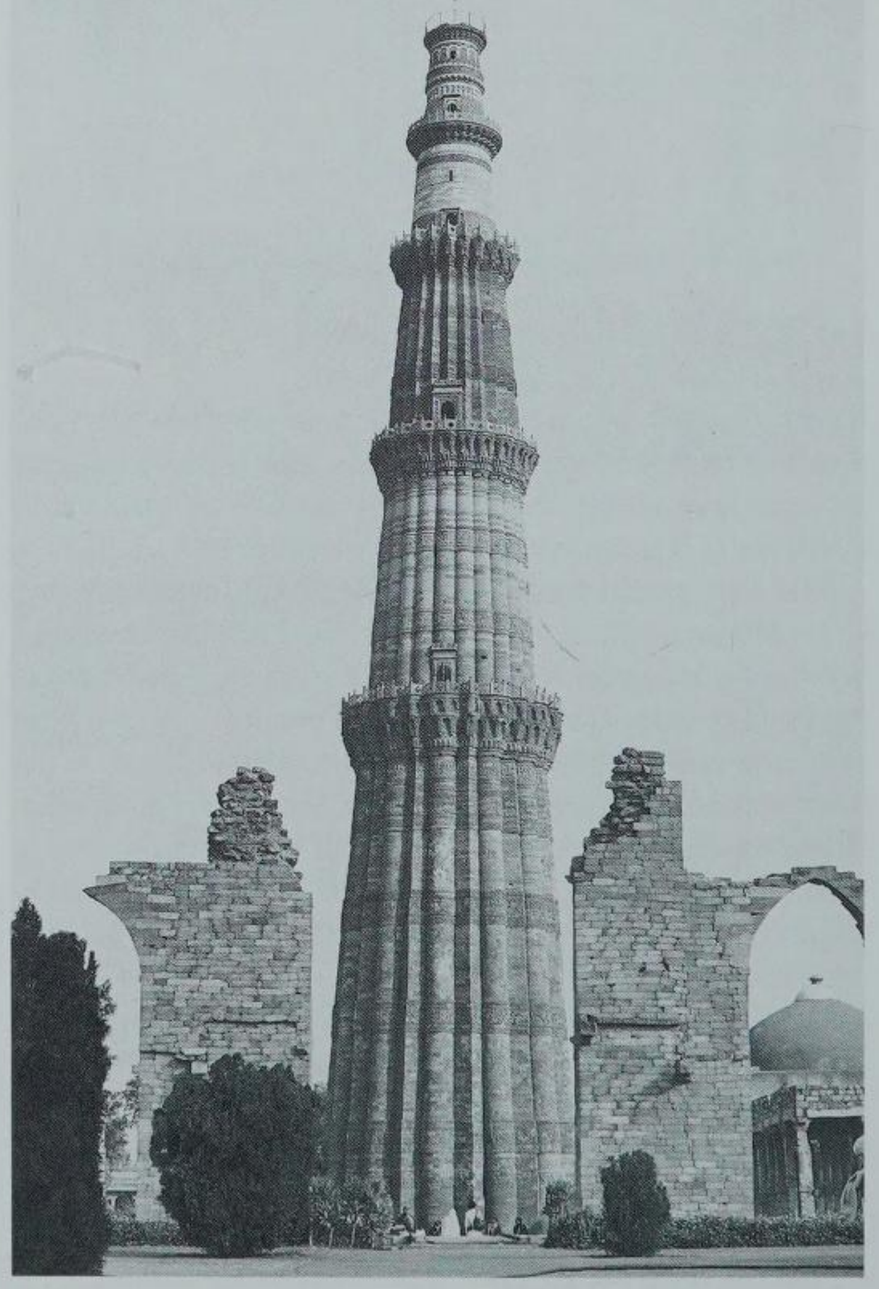
178. Delhi, Sultan Ghari: **(a)** plan (1:500); **(b)** from south-east.

179. Ajmer, Arhai-din-ka Jhompra: *qibla* screen.

177 (a)

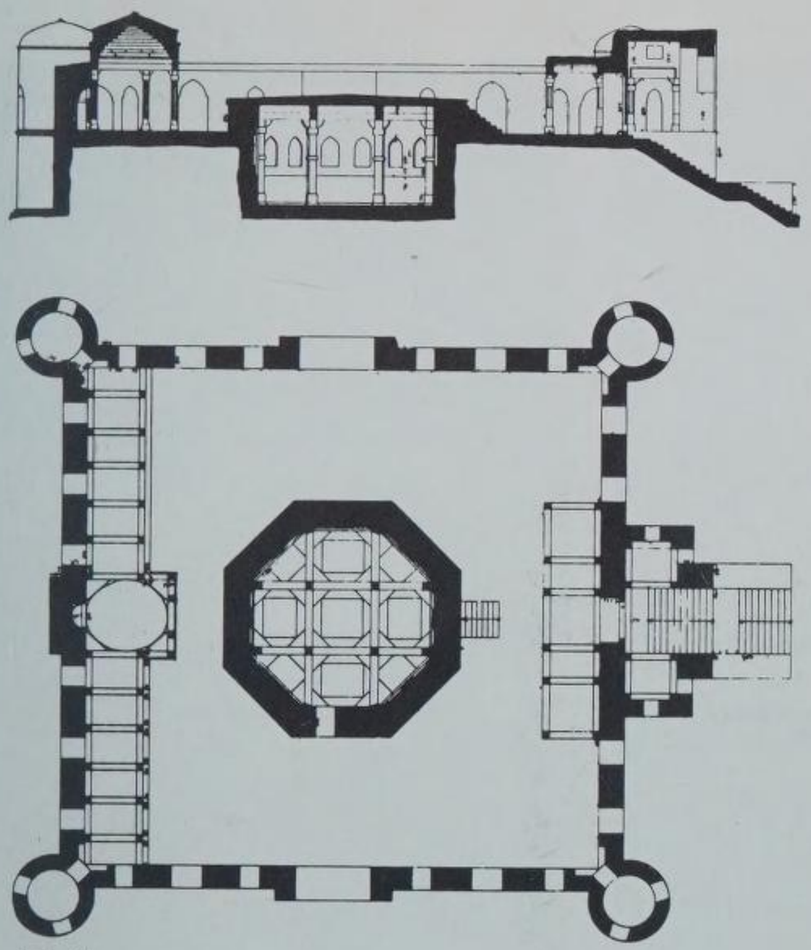


177 (b)

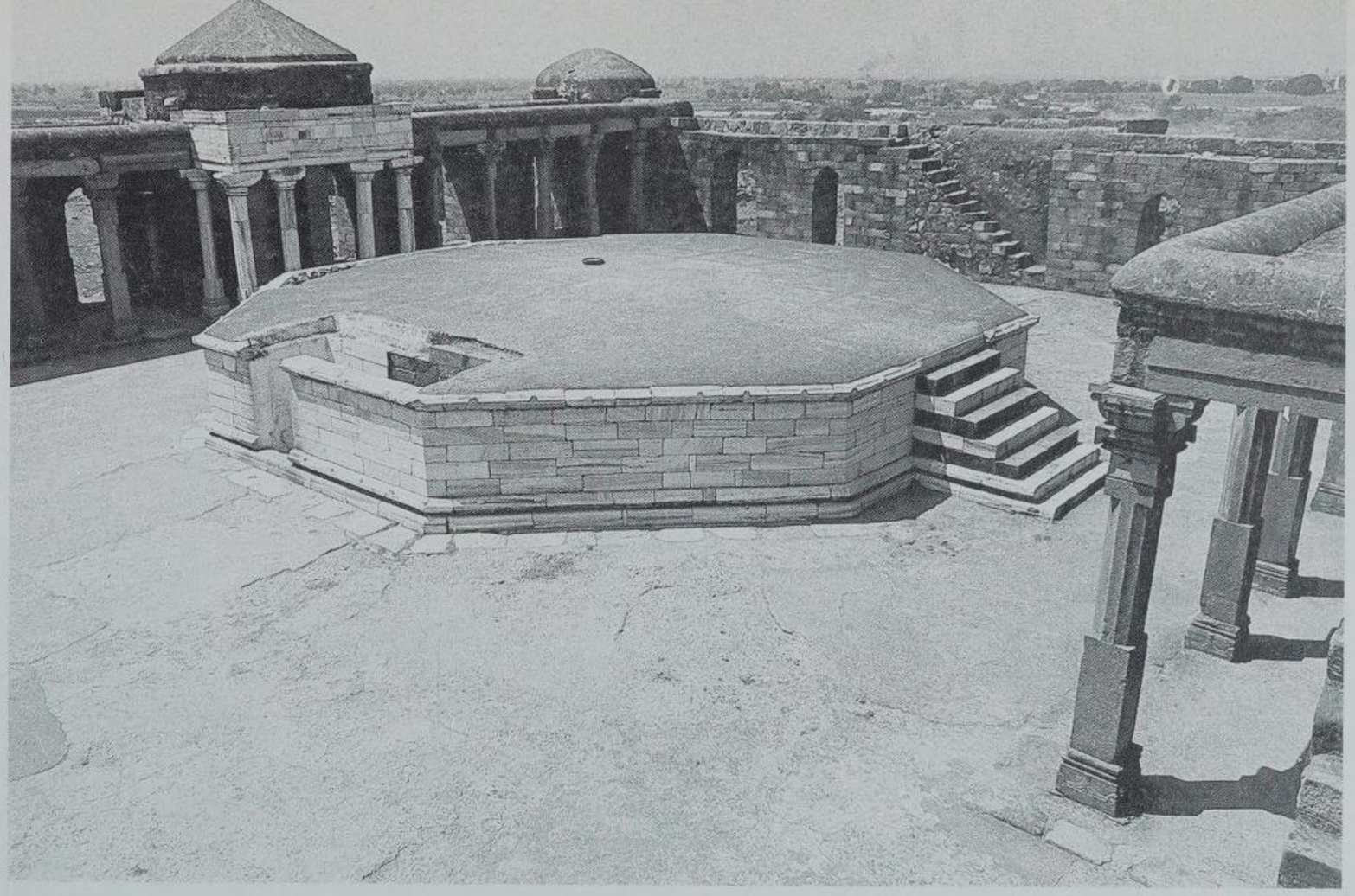


177 (c)

177 (d)

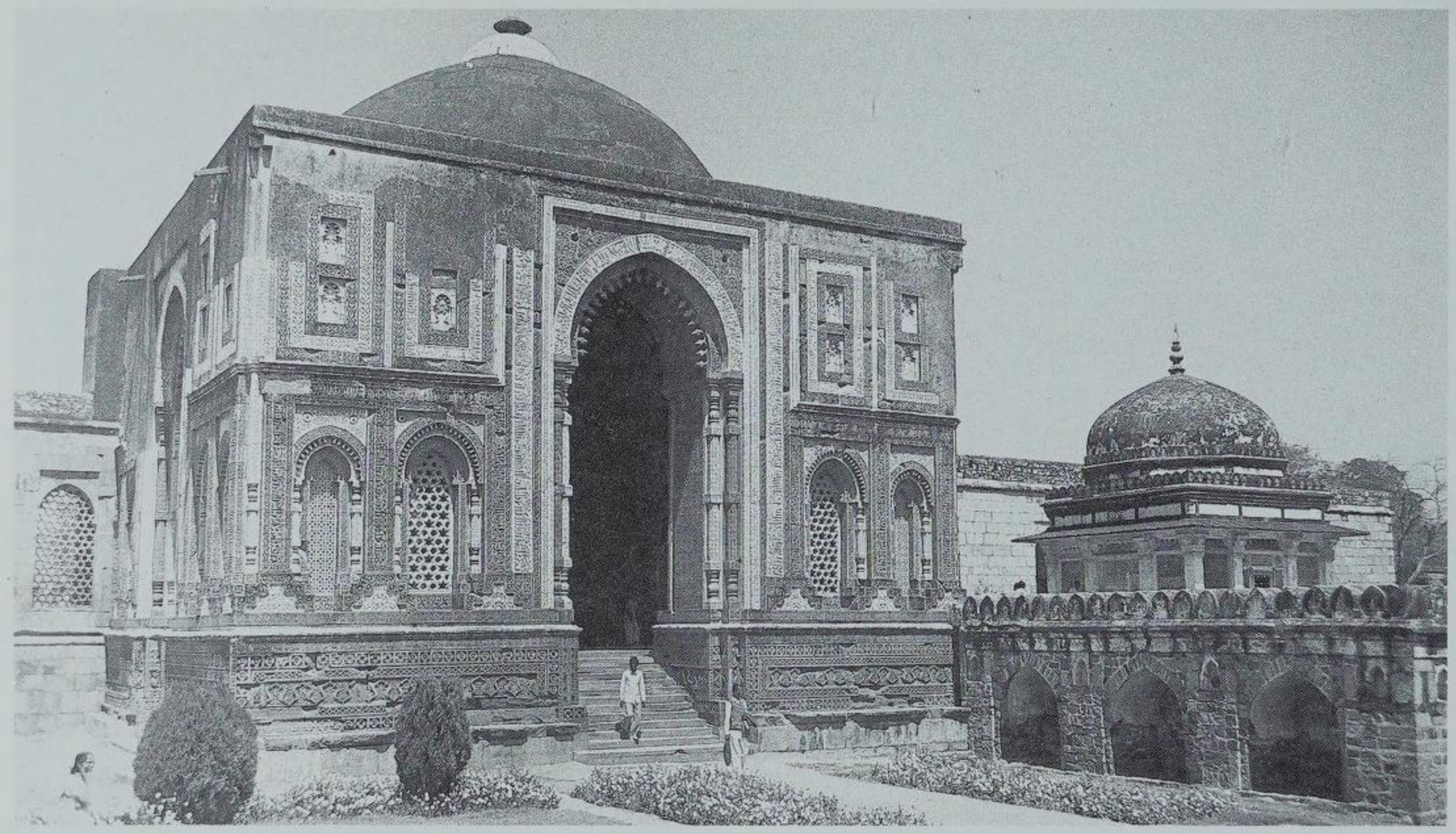


178 (a)

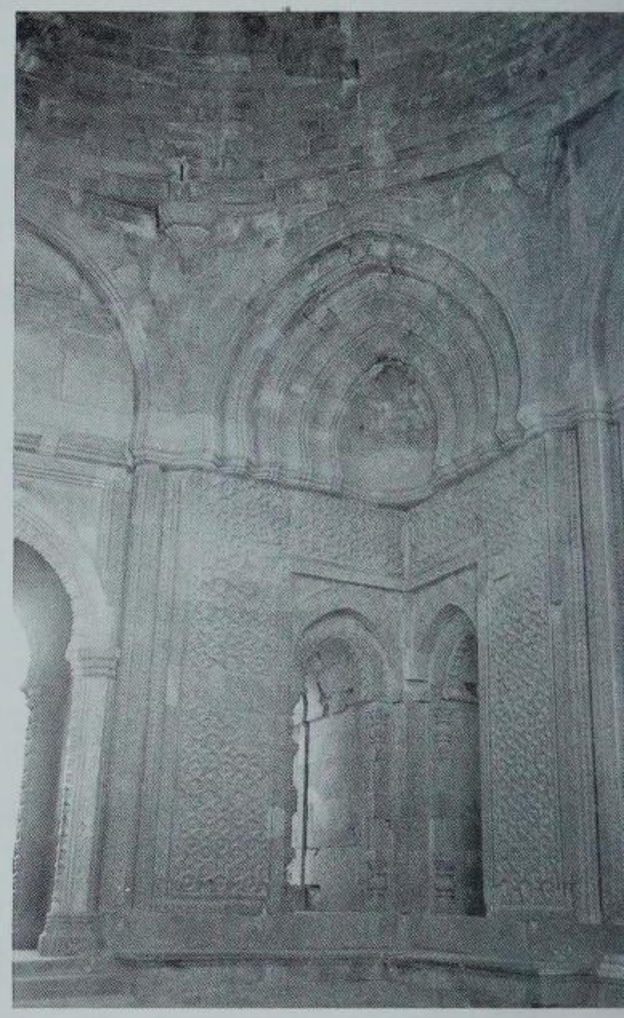


178 (b)

179



180 (a)



180 (b)

180. Delhi, Quwwat-ul-Islam, Alai Darwaza: **(a)** south front; **(b)** north-east corner and squinch detail.

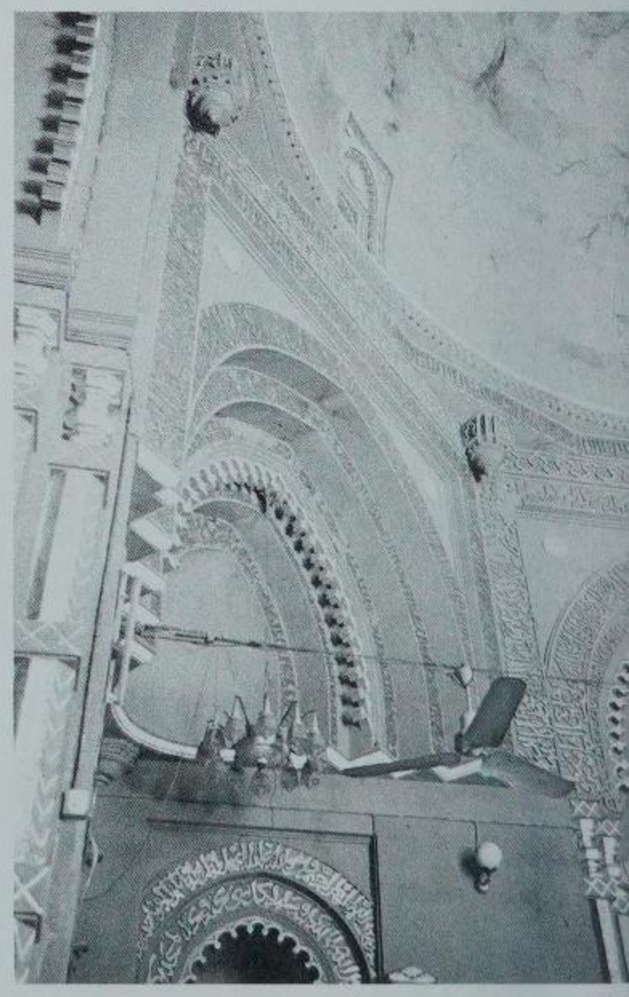
Indian workers could match the scale of their master's requirements only on their own traditional trabeated terms. However Ala-ud-din's grandiose extension of the Quwwat-ul-Islam is the most potent surviving testimony to his megalomania. This involved the doubling of the prayer hall behind a taller arcade, the erection of new colonnades along the other three sides of a court nearly four times the area of that of Iltutmish, the provision of four monumental entrance pavilions and the construction of a *minar* twice the size of Qutb's.

The *minar*, which never rose beyond the first storey, is now little more than a denuded stump. Of the rest only the southern entrance pavilion, the 'Alai Darwaza', reached any degree of completeness. Over a figured base into which
24(a) steps are cut, this is an elegant red-sandstone and white-
24(c) marble *qubba*, self-contained like its Zoroastrian or Roman triumphal antecedents, despite its projected integration with the southern colonnade. Divided into two registers of screened arched windows and blind panels, the east, south, and west facades are each dominated by a double-voussoir arch springing from colonettes, and relieved along the intrados by the spear-head valance which, reflecting native cusping, was to be so characteristic of the works of the later Sultanate. The north facade is not articulated but its arch is treated to elaborately beaded mouldings worthy of the fertile imagination of a Rajasthani. The interior, lit only by the innermost windows, has five receding arches forming squinches in the zone of transition from the square of the ground-plan to the octagon bearing a true dome. Interior and exterior are profusely ornamented with low relief carving including calligraphic bands. The calligraphic bands framing the entrance arch incorporate a date equivalent to 1311.

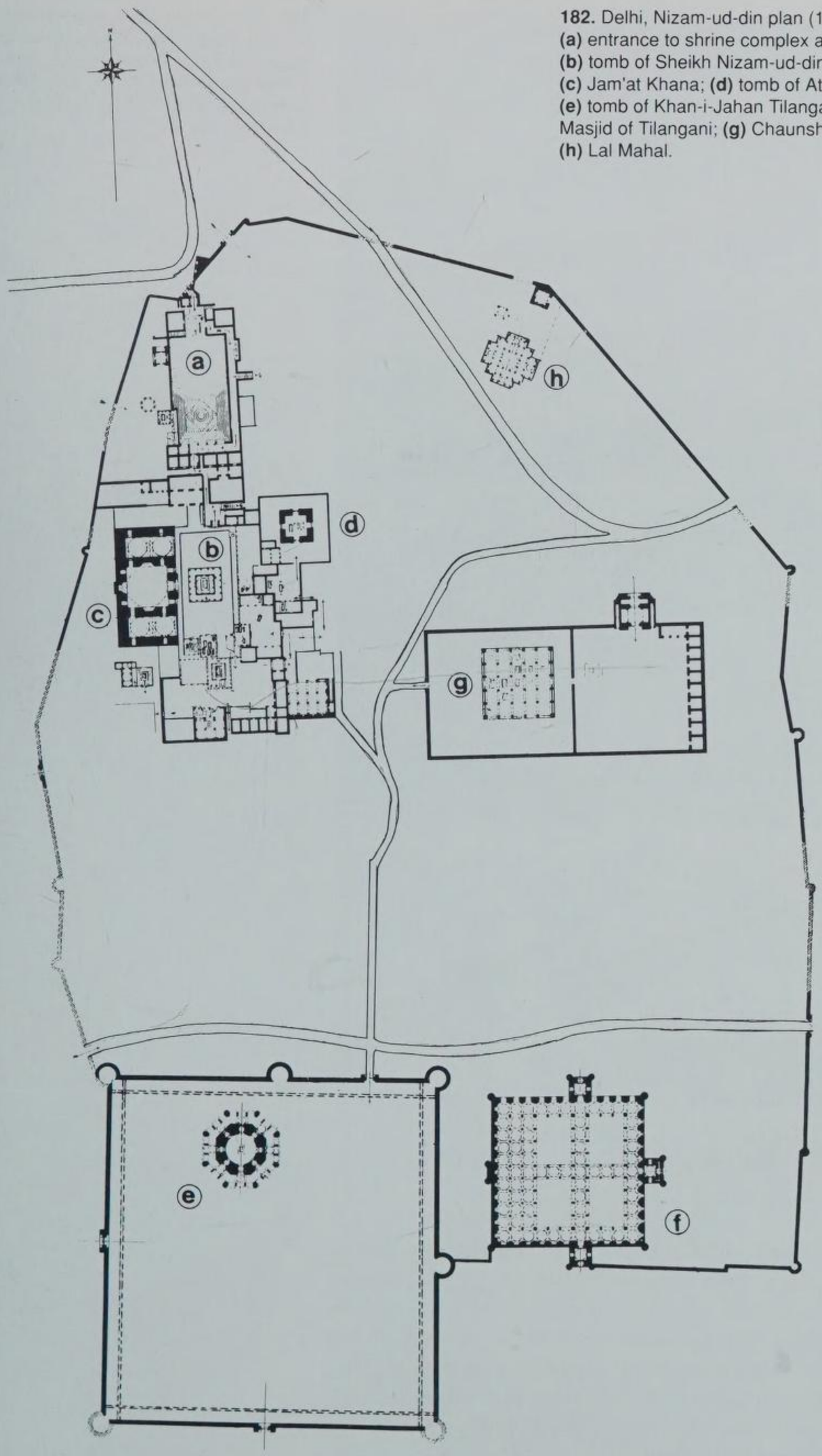
The first of a long series of Indo-Islamic monuments executed in the striking combination of red sandstone and white marble, the Alai Darwaza is also the first in which the imported arcuate tradition played a fully integrated role. It was to provide the major local prototype for sultanate tombs. The first of its many descendants was the austere central pavilion of the peculiar Jam'at Khana in the Delhi burial ground of Sheikh Nizam-ud-din Auliya. Perhaps conceived by the sultan as the Sheikh's own mausoleum, this was rejected in favour of the unpretentious cenotaph which was to form the nucleus of one of India's most important *dargahs*. With semi-domes behind the squinch arches, the central *qubba* marks an advance on the Alai Darwaza but the flanking rectangular chambers are ill-related to it in plan, structure or articulation and may have been later.

Ghiyas-ud-din Tughlaq, commander of Ala-ud-din's frontier forces based on Multan before he dispossessed the Khaljis of the Sultanate itself in 1320, founded there one of the most magnificent tombs of pre-Mughal India. Possibly destined for himself at first, on the change in his fortunes it was assigned to the saint Sheikh Rukn-i-Alam.

Like Tatta and Kalhora in neighbouring Sind, Multan had direct ties with Persia whose brick and tile tradition was well adapted to the conditions of the Indus plain. Amongst the



181. Delhi, Nizam-ud-din, Jam'at Khana: detail of squinch.



182. Delhi, Nizam-ud-din plan (1:2000): **(a)** entrance to shrine complex and tank; **(b)** tomb of Sheikh Nizam-ud-din Auliya; **(c)** Jam'at Khana; **(d)** tomb of Atgah Khan; **(e)** tomb of Khan-i-Jahan Tilangani; **(f)** Kalan Masjid of Tilangani; **(g)** Chaunshat Khamba; **(h)** Lal Mahal.

Multani precedents for Sheikh Rukn's tomb, the late Mamluk works of Baha-ud-din Zaqaria, Shadna Shahid and Shams-ud-din Tabrizi are all brick *qubbas* with markedly battered walls, reflecting the local vernacular, octagonal clerestory and broad low dome picked out in blue and white tiles. The first has monumental battered *iwan* frontispieces, the last two are surrounded by verandahs. Sheikh Rukn's tomb itself marks the culmination of the Multani tradition but it goes beyond its predecessors to combine the domed corner turrets, if not the battered walls, of the Samanid tomb at Bokhara, with the octagonal plan which had just received its most monumental expression to date at Sultaniya. Inlaid blue tiles are used sparingly in bands round the lower storey, but more lavishly on the pilasters, frieze and clerestory window-frames, and to relieve the base of the great white dome. Patterned brickwork and carved timber also play dominant roles, especially in the frontispiece and the subsidiary entrance.[9]

173(b),(d); 183(a)

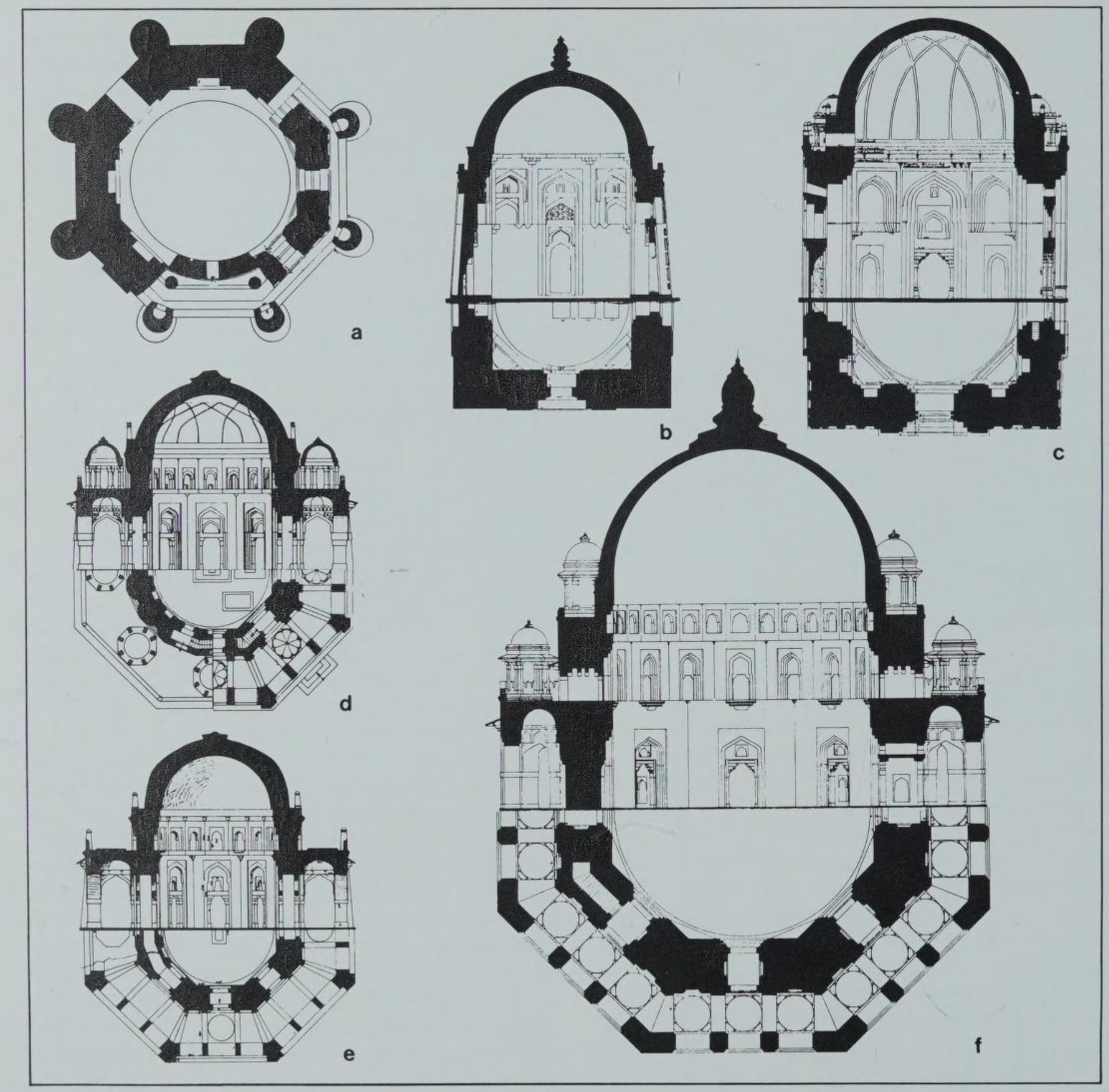
In Delhi Ghiyas-ud-din founded another new capital, Tughlaqabad, on a rocky outcrop by a seasonal lake to the east of Lal Kot and vigorously pressed forward with its construction during his brief reign. In accordance with age-old precedent, a citadel containing the palace and administration buildings was integrated with the town defences. These are powerful fortifications of cyclopean masonry aggressively battered like the brick-built walls of Multan, but little of substance remains within them. However, they still keep conjoined watch with subsidiary Adilabad over Ghiyas-ud-din's own well-preserved tomb.

175

In a citadel of its own on an island in the lake connected with the palace precinct by a causeway, this red sandstone and white marble masterpiece combines elements from both Multan and Delhi. The outer gate has a great arch, battered like the bastions and springing from inset colonettes, enclosing a vertical screen wall with a trabeated portal below arched lancet windows. Arcades around the compound are interrupted by porticos of a Hindu order before towers at the corners, that to the north-east containing the Dar'ul-Aman burial chamber of Ghiyas-ud-din's son Zafar Khan and, possibly, his successor Muhammad Shah. The line of descent from Ala-ud-din Khalji's Alai Darwaza via the central pavilion of the Jam'at Khana and on to Ghiyas-ud-din's tomb is clear but Tughlaq's architects brought to the form the military might they borrowed from the battered walls of Multan. The white marble dome, string course, prayer-mat panels, *iwan* voussoirs with spear-head valance and inset screens complement the vivid red sandstone without. Inside the plain vertical walls are relieved only by the elegant *mihrab*, but above squinches formed of double arches, red sandstone again gives way to white marble for the dome.

24(b)

Muhammad Tughlaq (1325-1351) moved the capital twice: first to the site between Lal Kot and Siri then, abortively as we have seen, to Daulatabad where the old Yadava

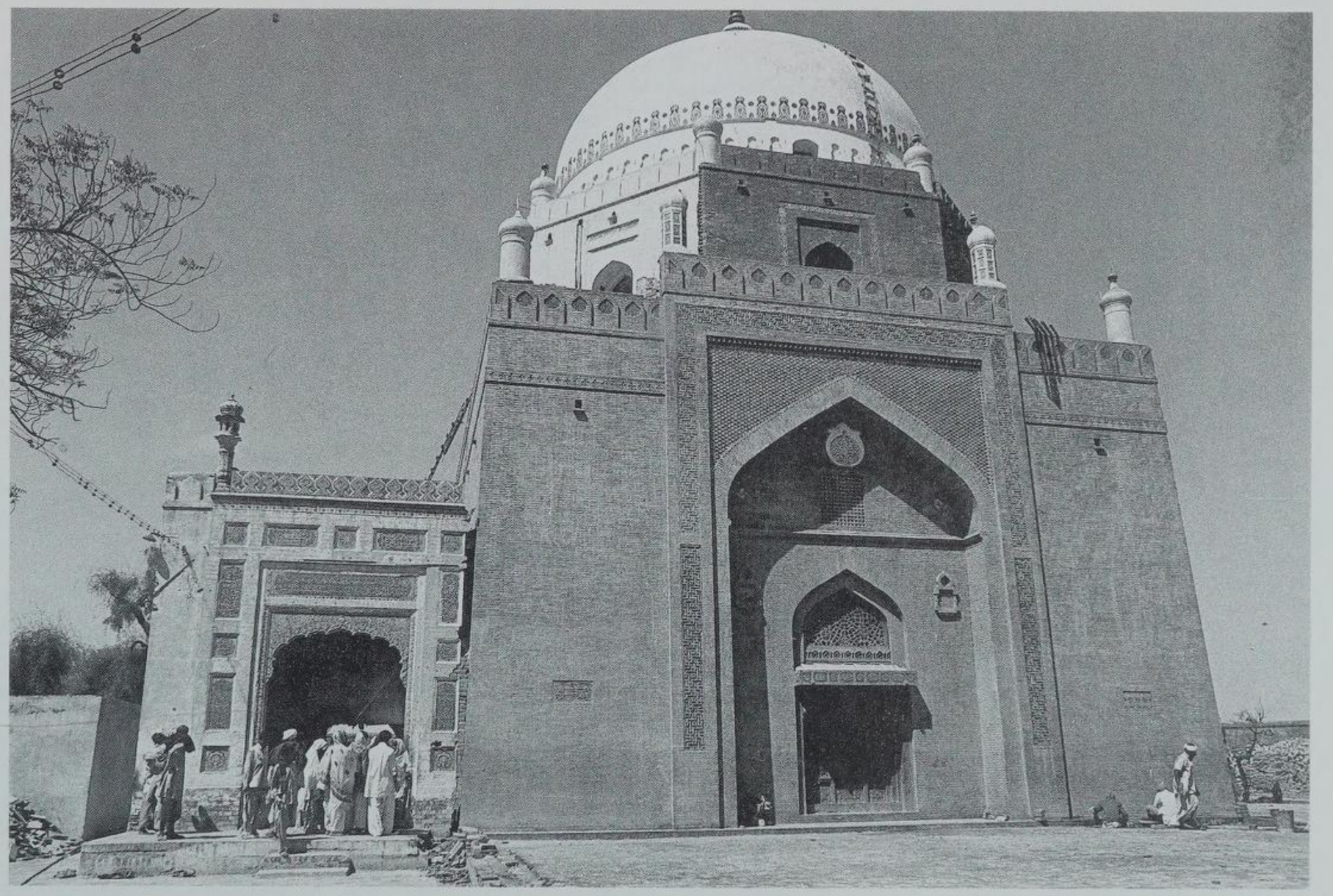


183. Tomb plans (1:500) and sections (after Wetzel): **(a)** Multan, Sheikh Rukn-i-Alam; **(b)** Delhi, Ghiyas-ud-din Tughlaq; **(c)** Delhi, Bare-khan-ka Gumbad; **(d)** Delhi, Mubarak Sayyid; **(e)** Delhi, Sikandar Lodi; **(f)** Sasaram, Sher Shah Sur.

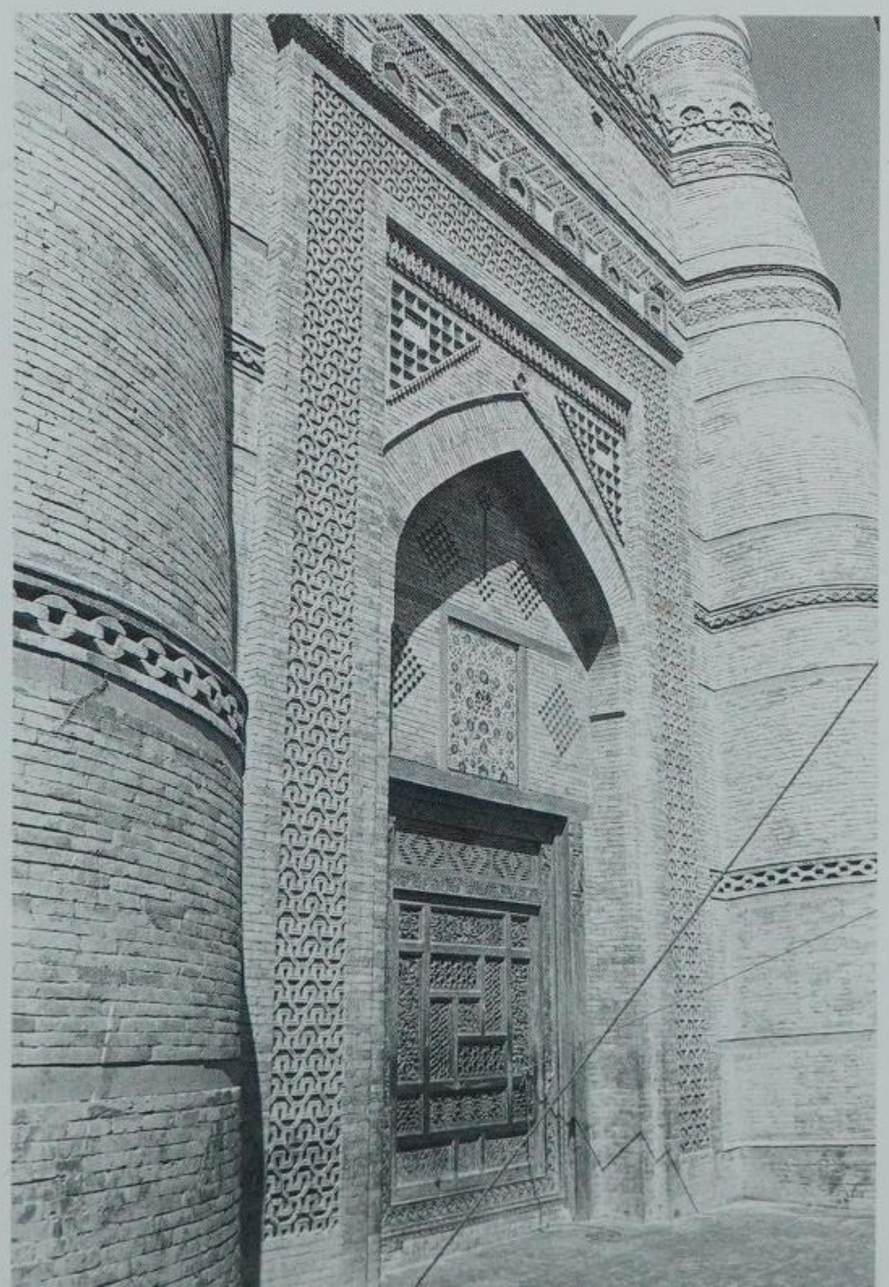
fortifications were restored and extended to embrace an area large enough to accommodate the population of Delhi. Most of the ruined mosques and palaces there date from the period of the Tughlaqs and the early Bahamanis. Amongst the rubble of Jahanpanah ('World's Refuge'), the new Delhi seat, the remains of Muhammad's *hazar sutun*, built to outdo Ala-ud-din, may be distinguished near the so-called 'Begampuri' mosque. This, like the main mosque of Daulatabad, survives virtually intact but, unlike the latter it marks a new departure in Indian mosque planning, reflecting
188(a) developments in Seljuk Isfahan.[10]

The first mosque of Daulatabad was probably constructed for the destroyer of the Yadavas, Mubarak Khalji, with material pillaged from Hindu temples like most of the mosques built by early Muslim rulers elsewhere in India. Jami-masjid has a Hindu colonnaded prayer hall but, varying the theme stated in the Quwwat-ul-Islam, it is accented with arcaded bays. On a high platform, the Begampuri mosque's court is bordered by hall and cloisters as usual but, no longer of pillaged materials, these are arcades with shallow domes over pendentives carried on simple paired piers. Most significantly, the *qibla* is marked by a great *iwan*. Built of plastered rubble,

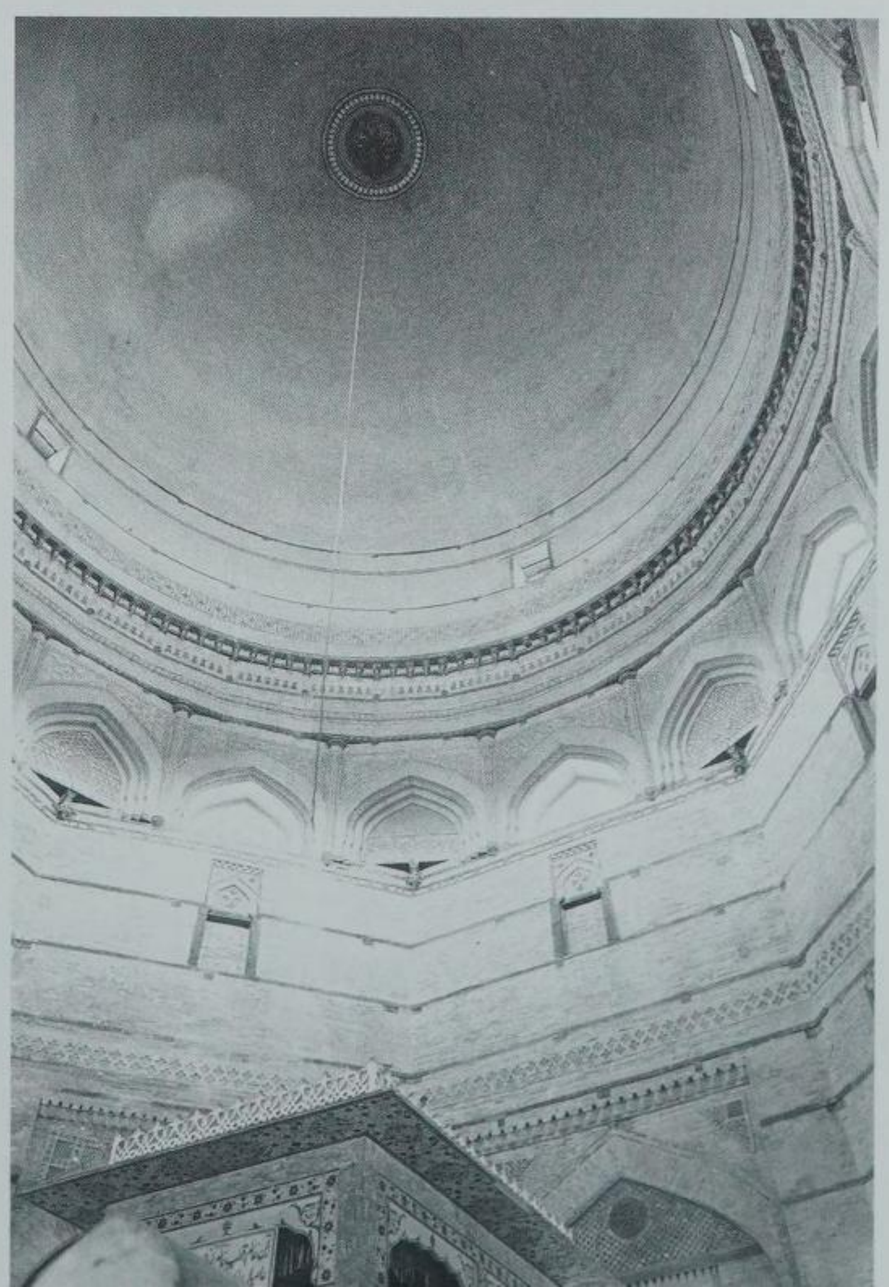
184. Multan, tombs: **(a)** Baha-ud-din Zaquaria; **(b–c)** Sheikh Rukn-i-Alam.



184 (a)



184 (b)



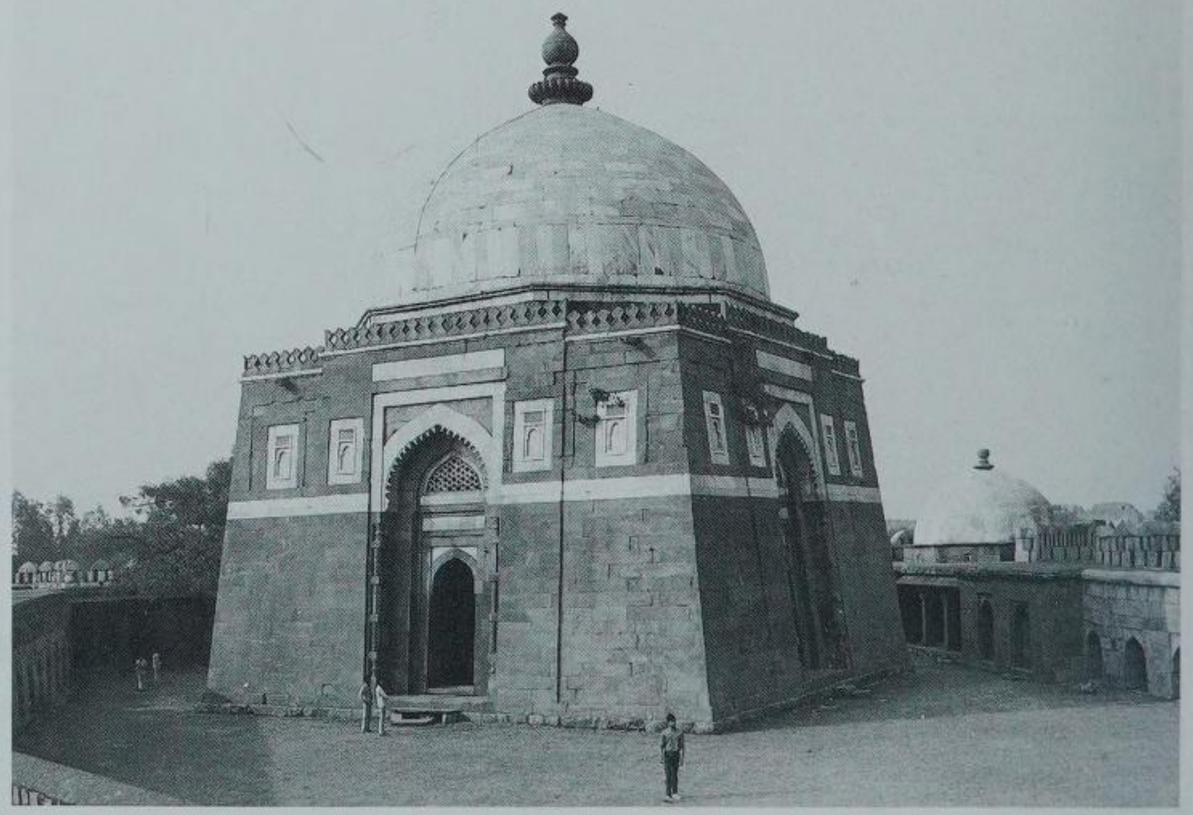
184 (c)

185. Delhi, Tughlaqabad: **(a)** main citadel walls looking west; **(b–d)** Tughlaq tomb, citadel, portal, *qubba*.

185 (a)

185 (c)

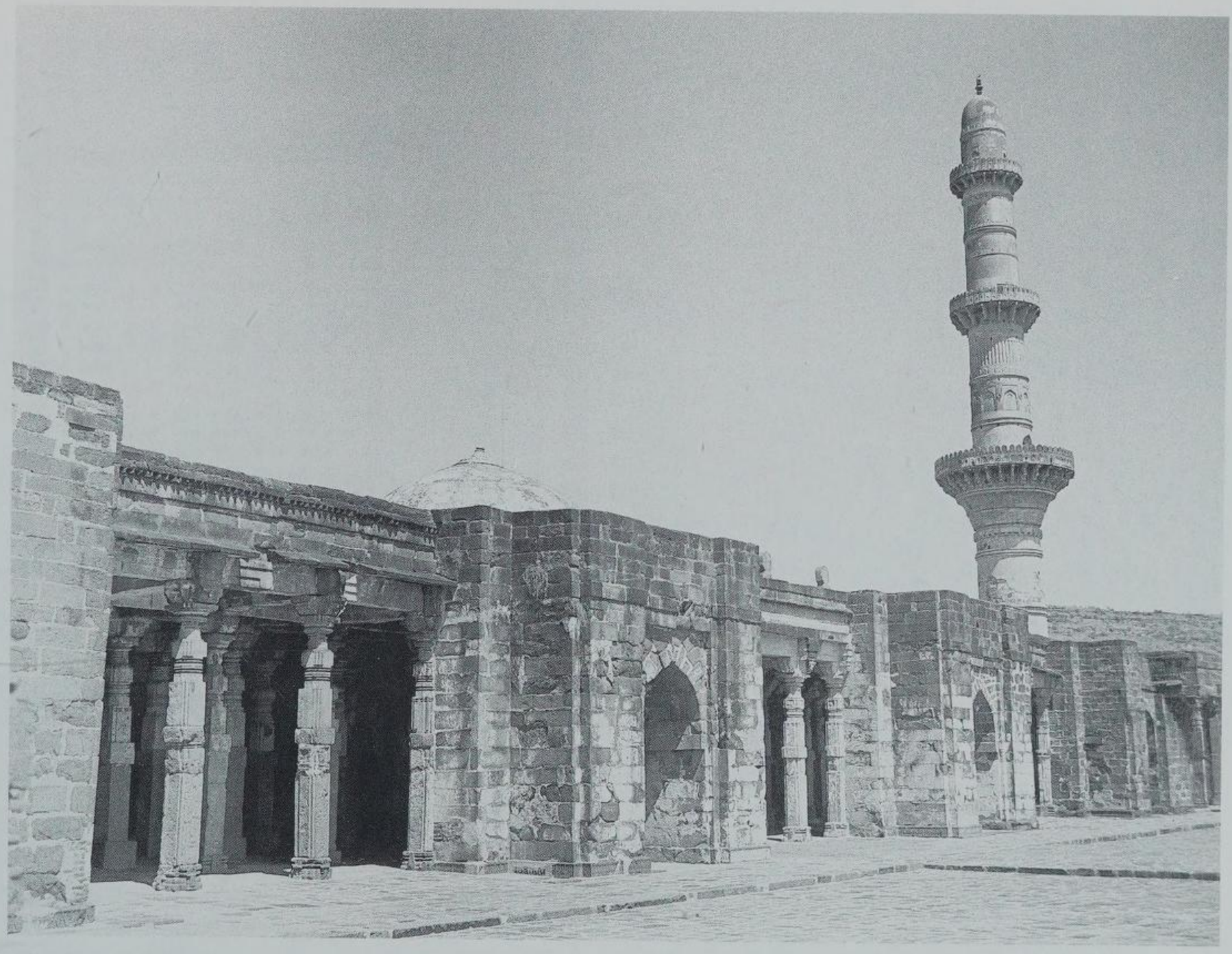
185 (b)



185 (d)

186. Daulatabad, Jami-masjid from south-east with Chand Minar background.

Delhi, Begampuri mosque: court and er hall from north-east.



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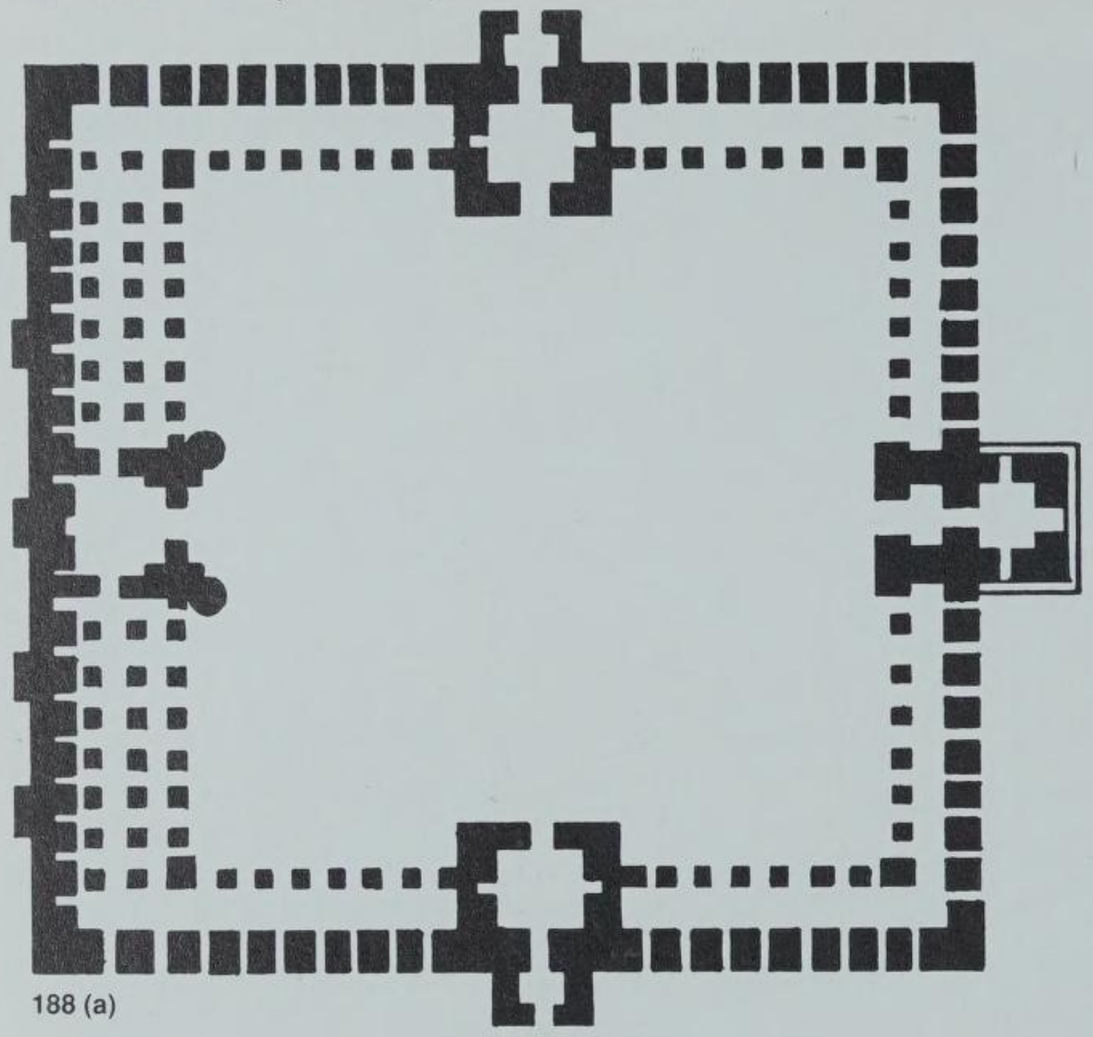
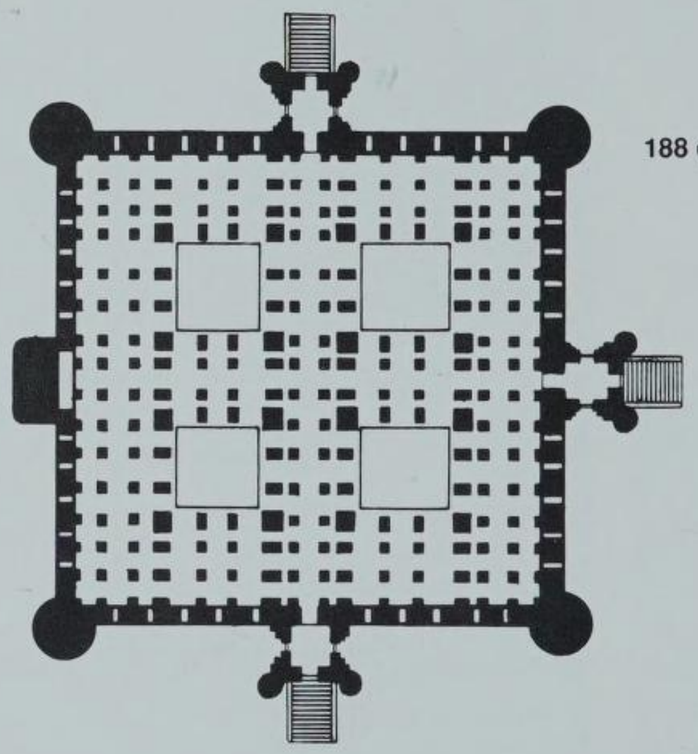


188 (a)



188 (b)

188. Delhi mosque plans (1:1000): **(a)** Begampuri; **(b)** Khirki.

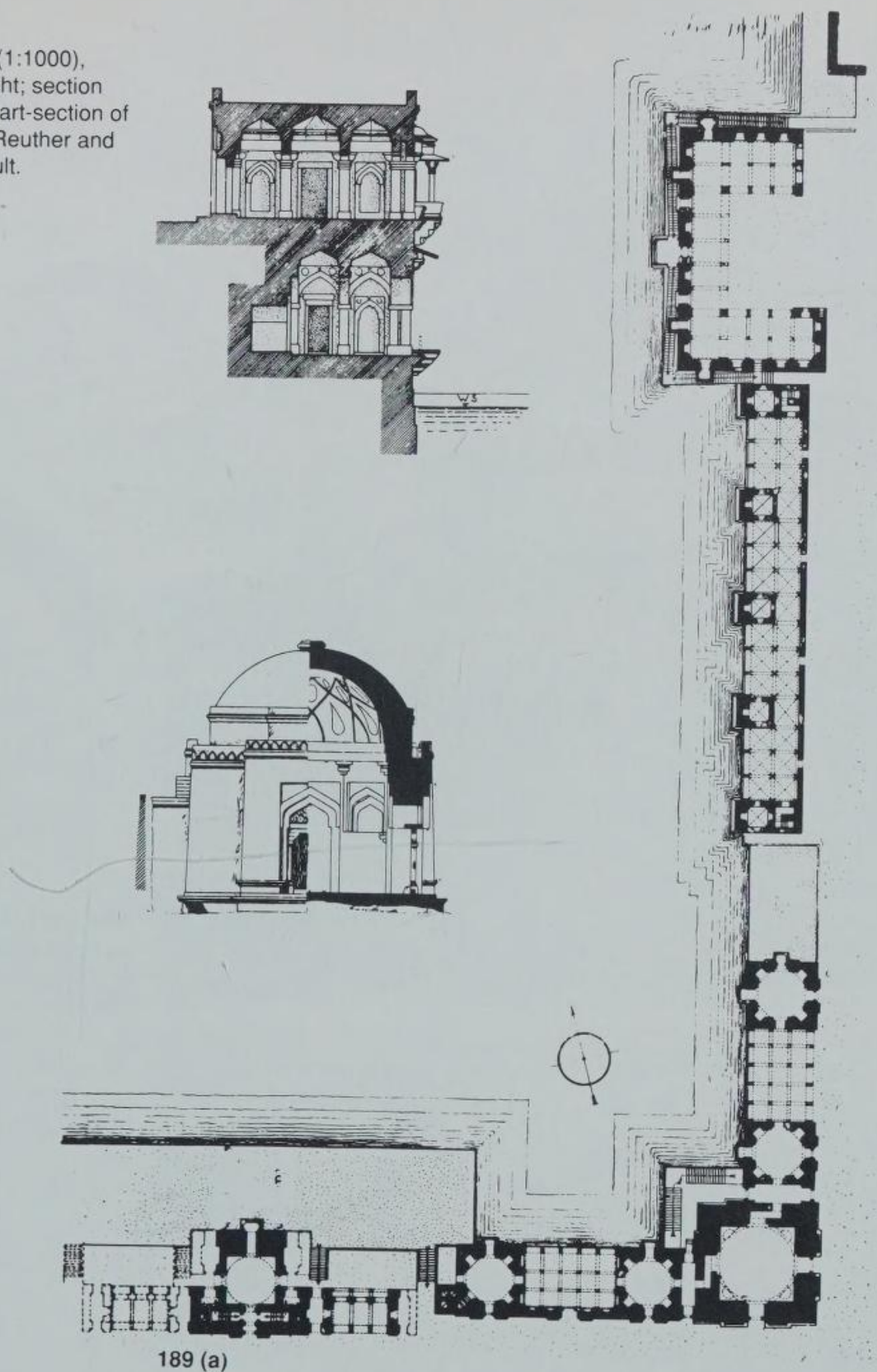
there are traces of the glazed tiling which once sheathed exposed surfaces as in Iran, but the battered minarets attached to the frontispiece produce a pylon-like form that recalls the Tughlaq Multan.

The antiquarian Firoz Shah, with whom the clergy replaced Muhammad, claimed credit for a vast amount of public building and many religious foundations. He too founded a new capital, Firozabad, the fifth Muslim seat at Delhi. Reputed to have had eight large mosques each capable of accommodating ten thousand people, it was dominated by the fort palace Kotla Firoz Shah. Apart from the capital, the sultan's most significant work is the *madrasa* at Hauz Khas, west of Siri, incorporating his own tomb and providing educational facilities unprecedented in India. Unfortunately all that survives at either site has lost any revetment it may once have had, whether of stucco or glazed tiles, and the consequent invariable exposure of plastered rubble deprives Firoz Shah's work of the distinction of its dressed stone predecessors and successors. At both sites, however, important elements of the indigenous tradition are recalled – notably the *prasada*, the *chattri* and even the *vedika*. Thus, in accordance with ancient precedent, the new faith was promoted to the place of the old icons in age-old forms immediately appreciable to all Indians.

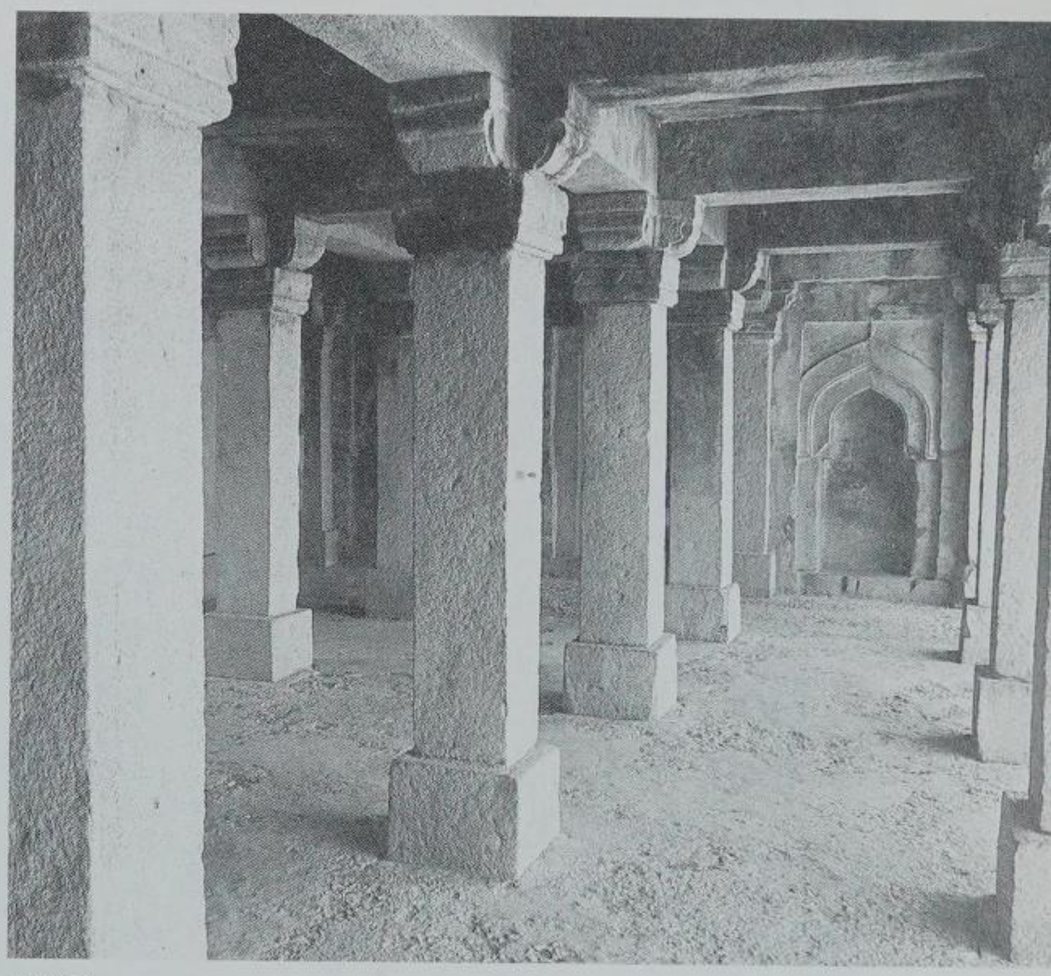
On the banks of the Hauz Khas tank, dug originally for Ala-ud-din, Firoz built ranges of arcaded galleries and residential cells surmounted by domed chambers and pillared halls almost as austere in structure as the rock-hewn multi-storey masterpieces at Ellora. The mosque, towards the north of the east range, was of the conventional court type though the east side does not seem to have been closed with colonnades. Instead of the formal four-*iwan* scheme favoured in post-Seljuk Persia, the court is dominated by *chattris* presumably for convocation or teaching as well as cenotaphs. The tomb, at the south-east corner, follows Ghiyas-ud-din's formula but the walls, less aggressively battered, were probably once sheathed in glazed tiles. Inside, the fine stuccoed and painted dome has a linear pattern – probably descended from the Isfahan Jami-masjid – of interlocking pointed arches inset with medallions about a great calligraphic rosette. It is supported on squinches formed of two recessed arches and a semi-dome, as in the prototype, but with corbel blocks below. An innovation, unexpected as an adjunct to the last resting place of a dogmatic Muslim – if not of one with avowed antiquarian interests – is a *vedika* defining the southern precinct.[11]

Kotla Firoz Shah conformed to the traditional type of citadel integrated with town defences and there are considerable denuded remains of the palace on an extensive terrace beside the Yamuna. Incorporating the constituent elements of the earliest Indian palaces, themselves derived from the Achaemenids – and providing for the royal daily round defined by Kautilya – this lacks the formality and the great vaulted structures of Abbasid or Ghaznavid complexes. Instead, trabeated pavilions of a type not unfamiliar in India, seem to have been distributed like the tent-palaces of central Asia – for which the Tughlaqs' Turkish ancestors must have felt as much affinity. Within the massive battered walls, beyond the

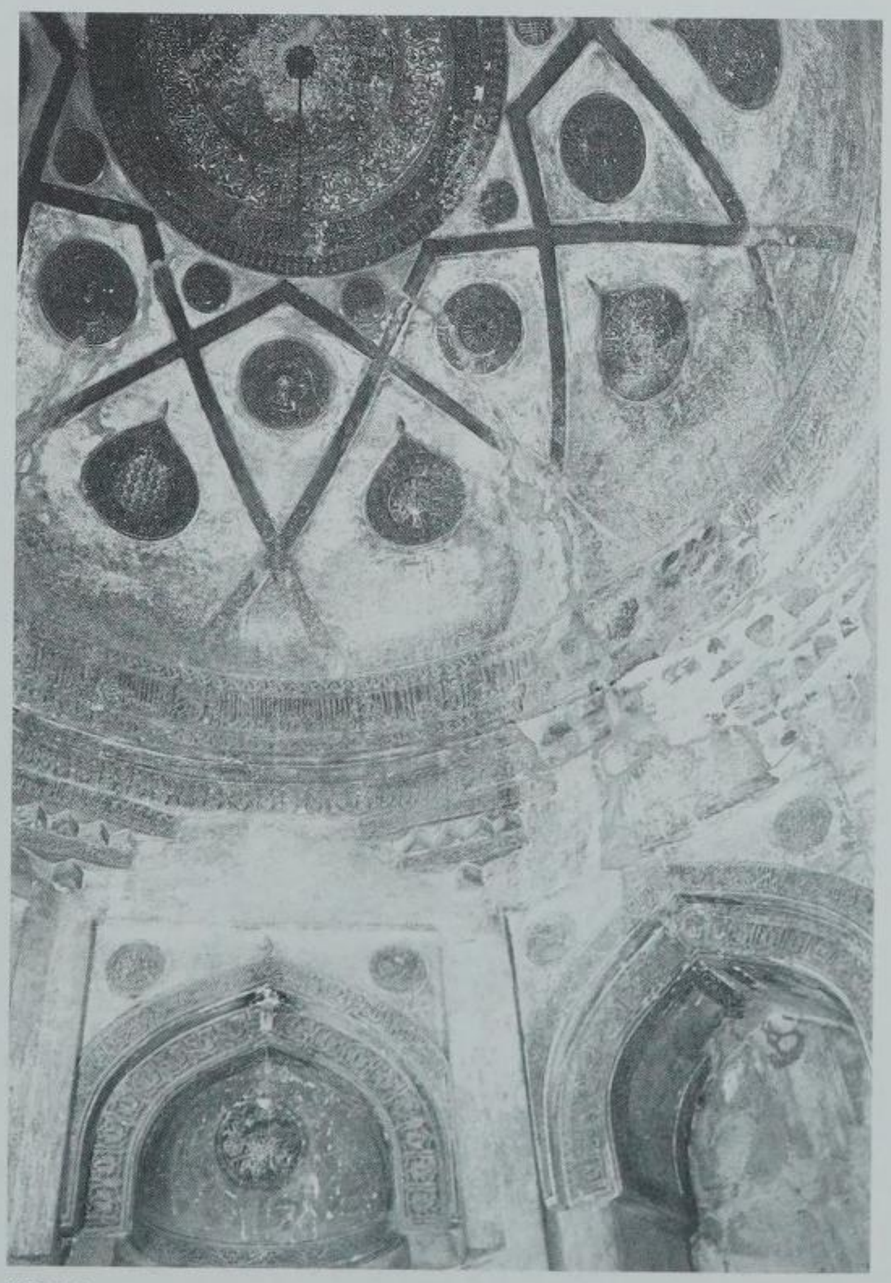
189. Delhi, Hauz Khas: **(a)** plan (1:1000), mosque top and tomb bottom right; section through gallery: part-elevation, part-section of tomb of Firoz Shah, inset (after Reuther and Wetzel); **(b)** gallery; **(c)** tomb vault.



189 (a)

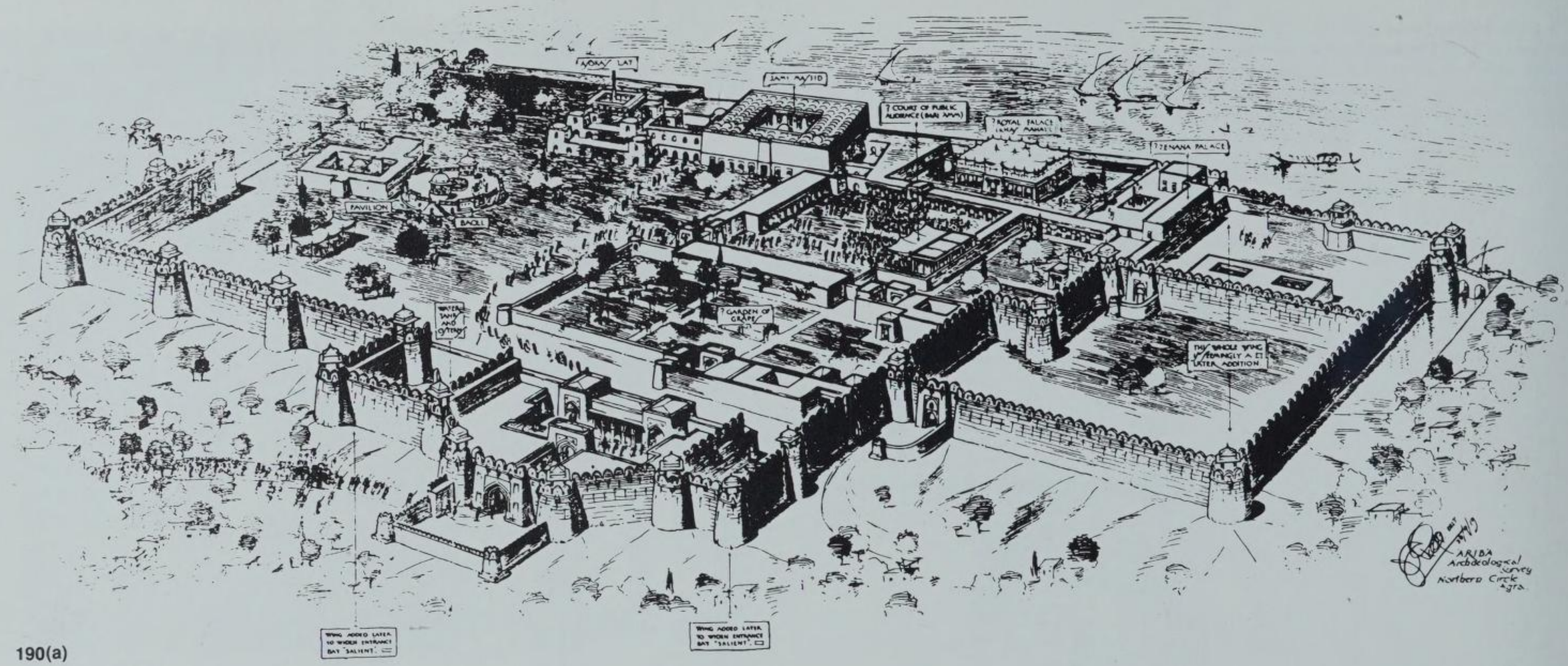


189 (b)

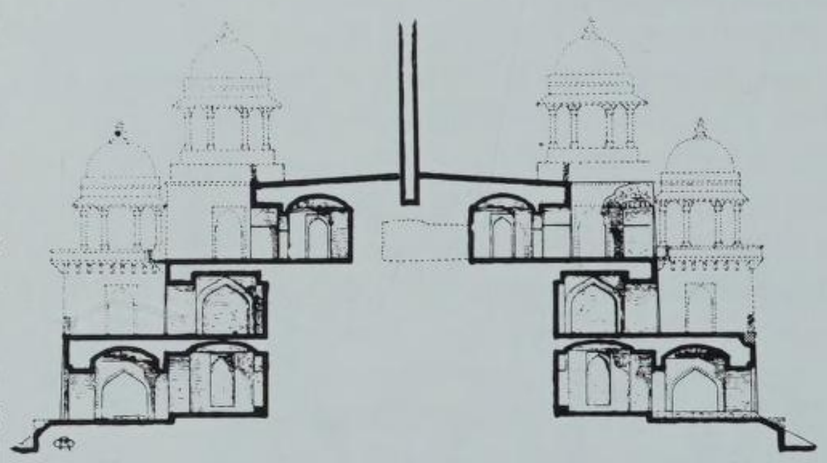


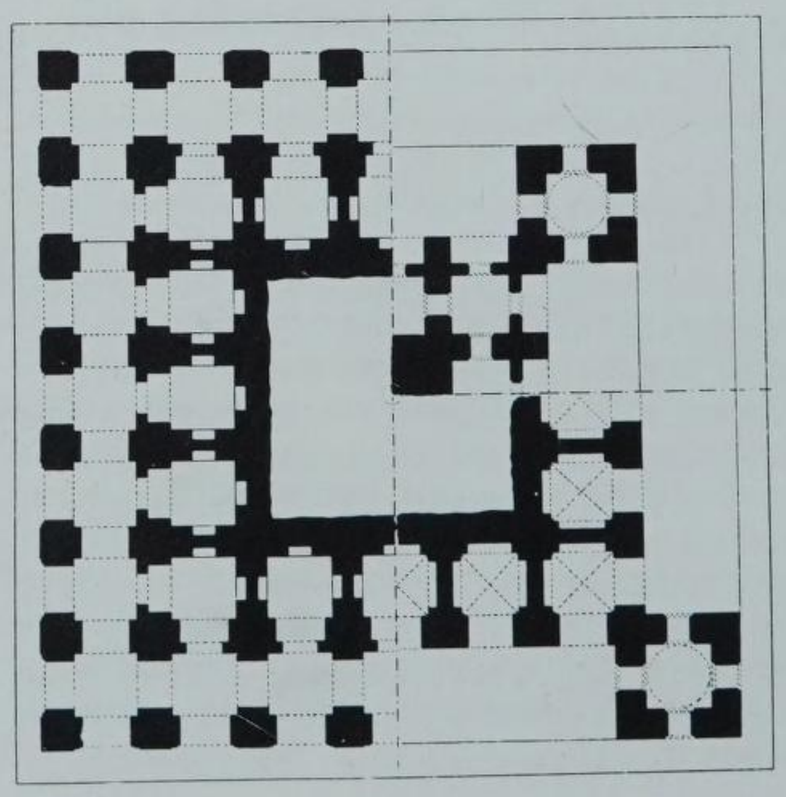
189 (c)

enclosure a circuitous route led to the sultan's quarters (*daulat khana*) with the court of public audience (*diwan-i-am*) dominated by a *talar* in its southern side, the private royal court (*diwan-i-khas*) on a riverside terrace beyond this to the east, by the mosque, and the *zenana* quarters (*haram sara*) to its south. Of the Jami-masjid, conventional in plan with colonnades around the court, only the north entrance pavilion and the *qibla* wall survive. Connected with it on the north is the celebrated *prasada*-like structure, apparently once complete with *chattris* on its terraces, erected as the platform for the Mauryan pillar which Firoz had removed to the capital from Topra.



190(a)





190(b)

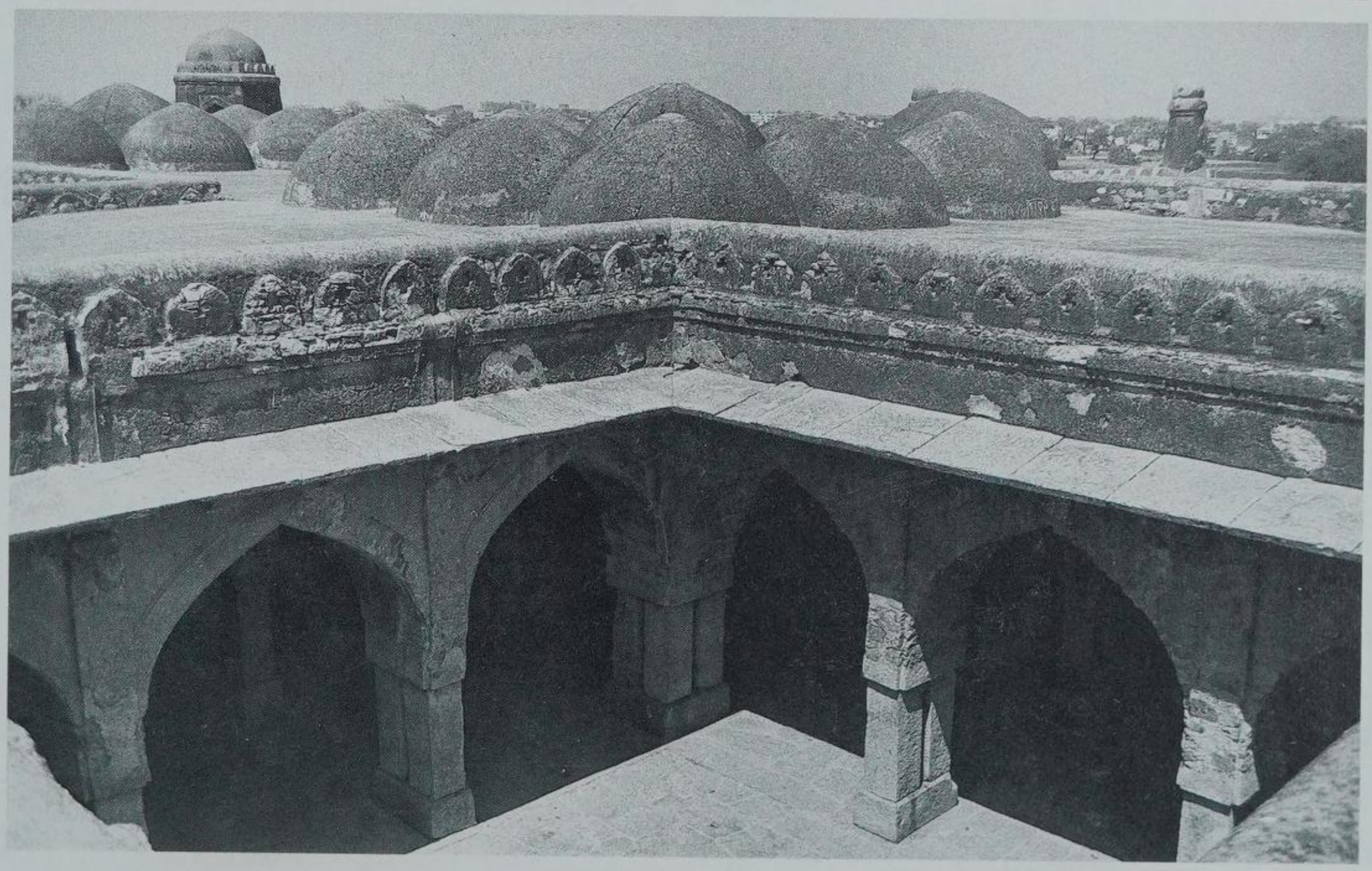
190. Delhi, Kotla Firoz Shah:
(a) reconstruction; **(b)** stepped pavilion, quartered plan (1:500) and section (after Reuther).

In addition to the royal foundations, several mosques were built by great nobles of Firoz Shah's regime, notably the Khan-i-Jahan Maqbul Tilangani and his son Junan Shah. The three mosques associated with their patronage, all better preserved than those of the sultan, show some adventurousness in planning, though the line of development pursued in them did not in the end prove important for the future.

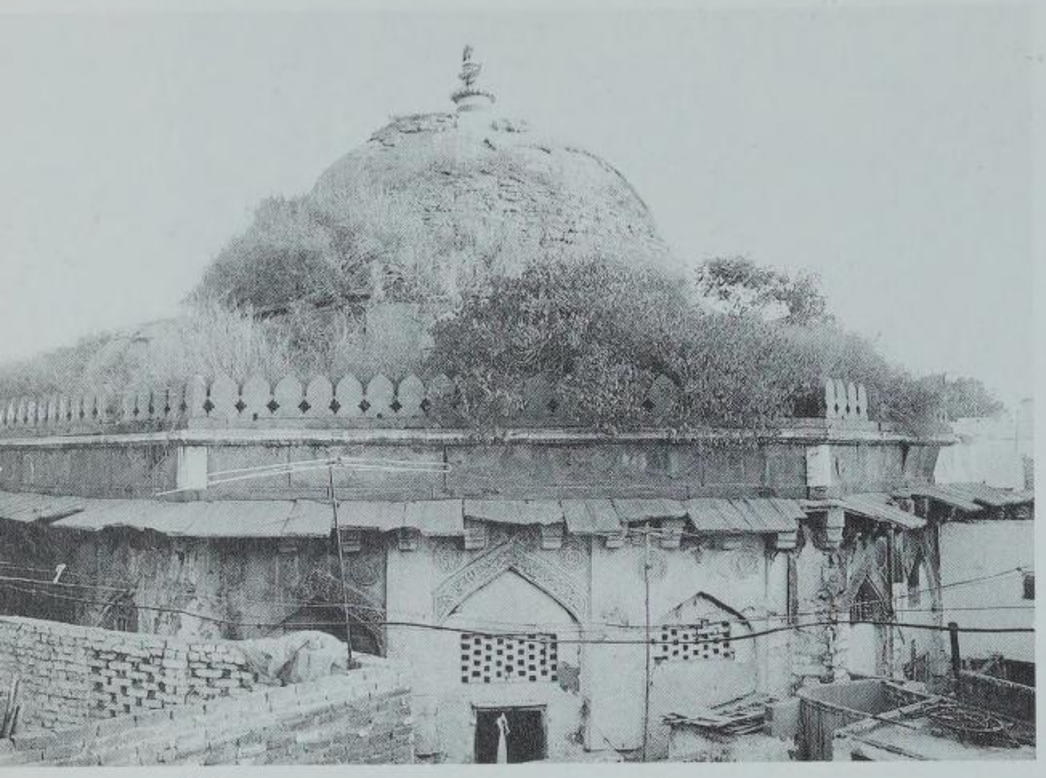
182(f) The Kalan Masjids at Nizam-ud-din and near the Turkman gate of Old Delhi both have high bases supporting a court surrounded by cloisters – three bays deep for the prayer hall to the west, one bay deep on the other three sides, these are all roofed with identical cupolas and shaded by deep *chadyas*. In the Nizam-ud-din mosque additional ranges of arcades are interpolated at right angles to one another on both main axes across the court, dividing it into four zones. This had obvious advantages in maximizing the sheltered area and modulating the lighting of the interior. The approach was 188(b) refined in the Khirki Masjid, south-east of Jahanpanah. Perfectly formal in its symmetry about the cardinal axes, the ranges of triple arcades along all four sides and across the centre frame four square internal courts. Cupolas cover only the nine bays of each square formed by the intersection of two ranges at the corners and on the main axes. Stout battered walls of plastered rubble pierced by relatively small screened windows give the appearance of rugged strength. With entrance pavilions on the north, south and east, a projection behind the *mihrab* to the west and slender tapering turrets at most corners, the absence of any dominant feature

191. Delhi, Khirki Masjid: **(a)** south entrance front; **(b)** south-east court from roof terrace.

191 (a)



191 (b)



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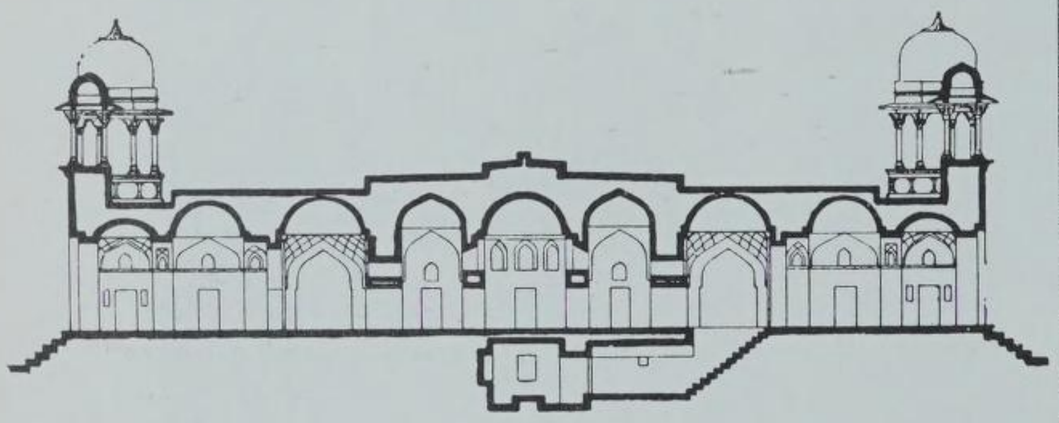
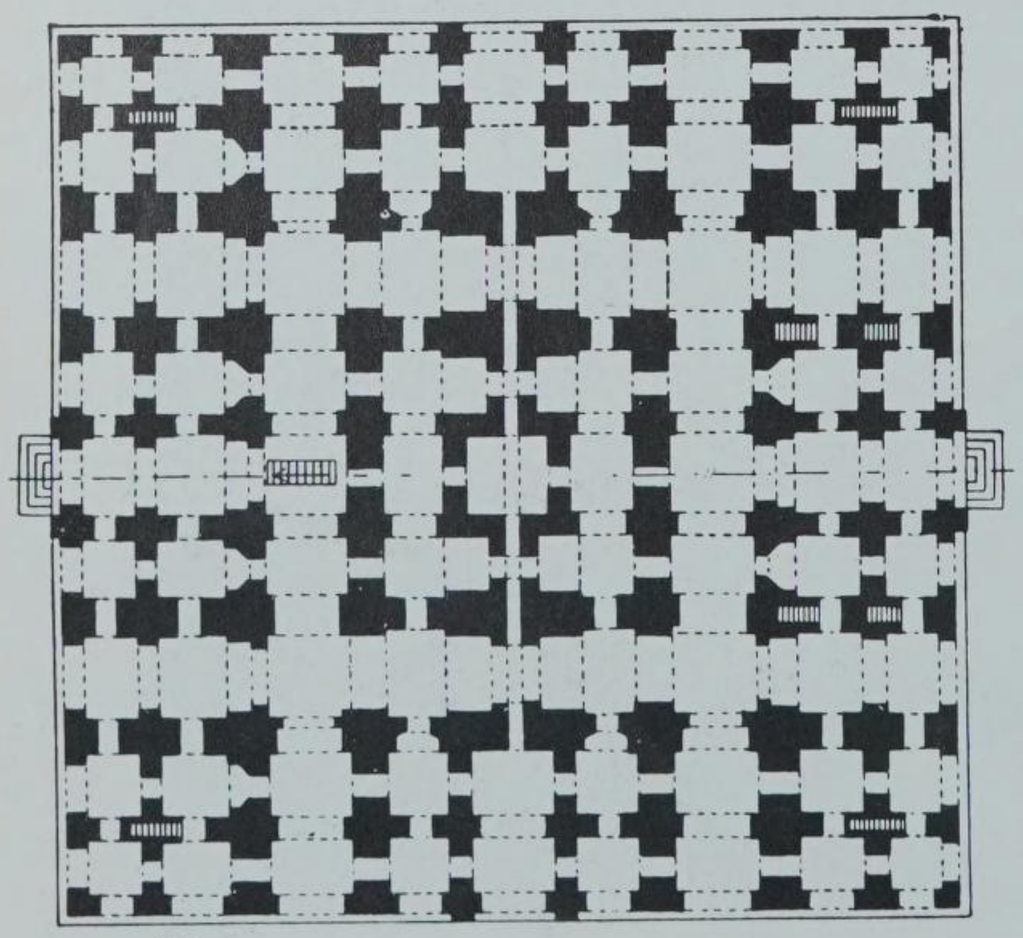


194 (a)

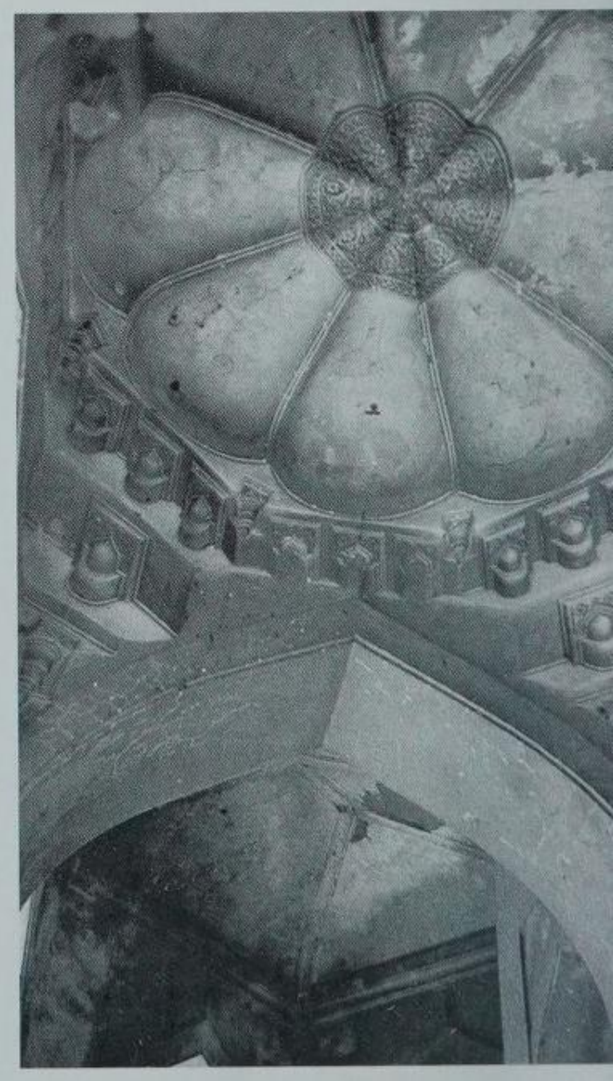


193

breaking the skyline reinforces the impression of homogeneity. It was this very quality, however, which made the approach unworkable: it denied authority to the *qibla* and it is not surprising that the latest mosque in the series is the most conventional.[12]

Khan-i-Jahan Tilangani, too, was responsible for a new departure in Indian Muslim mausoleum design and this was to be of lasting significance. His tomb, near Nizam-ud-din's Kalan Masjid, is an expansion of the *chattri* form following the octagonal precedents derived from the Dome of the Rock and the Qubbat-al-Sulaybiya at Samarra – if not the work of Ghiyas-ud-din Tughlaq at Multan. Its dome rests directly on the eight walls and is surrounded by an arcaded *chadya*-shaded verandah with a saucer dome over the central bay of each side.

After the death of Firoz Shah in 1388 more than a century is dominated by the activities of provincial rulers who took advantage of Delhi's weakness. The last of the Tughlaqs, who saw out the 14th century, the Sayyids, who maintained tenuous sway for the first half of the 15th century, and Bahlol Lodi, the first of the penultimate Afghan line, built little other than their tombs in and around Delhi. Activity revived under Sikandar Lodi, who moved to Agra where a fine pavilion (*baradari*) of his palace survives as a Mughal tomb. The octagonal form of tomb favoured by Tilangani was adopted



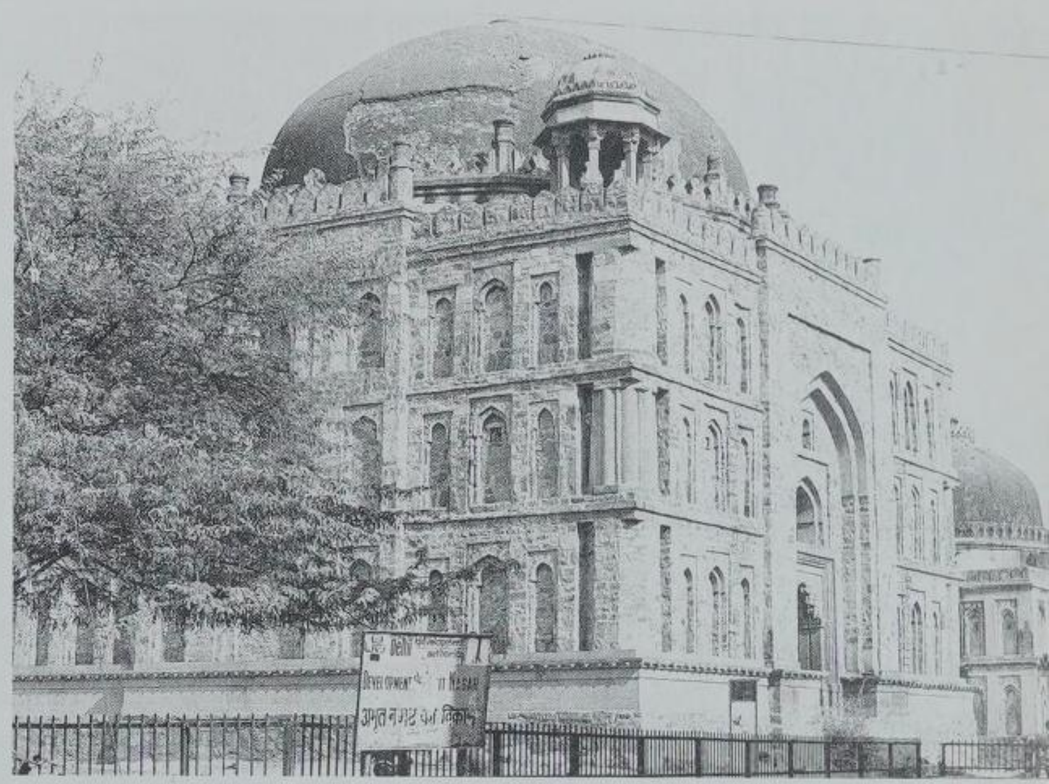
194 (b)

192. Delhi, Nizam-ud-din, tomb of Khan-i-Jahan Tilangani.

193. Agra, *baradari* of Sikandar Lodi: plan (1:500) and section (after Reuther).

194. Delhi, Sayyid and Lodi tombs: **(a)** Mubarak Sayyid; **(b)** Muhammad Sayyid, verandah vault; **(c)** Sikandar Lodi; **(d)** Bare-Khan-ka Gumbad; **(e)** Bara Gumbad from north-east with mosque right; **(f)** Bara Gumbad Mosque central *mihrab* bay.

194 (c)



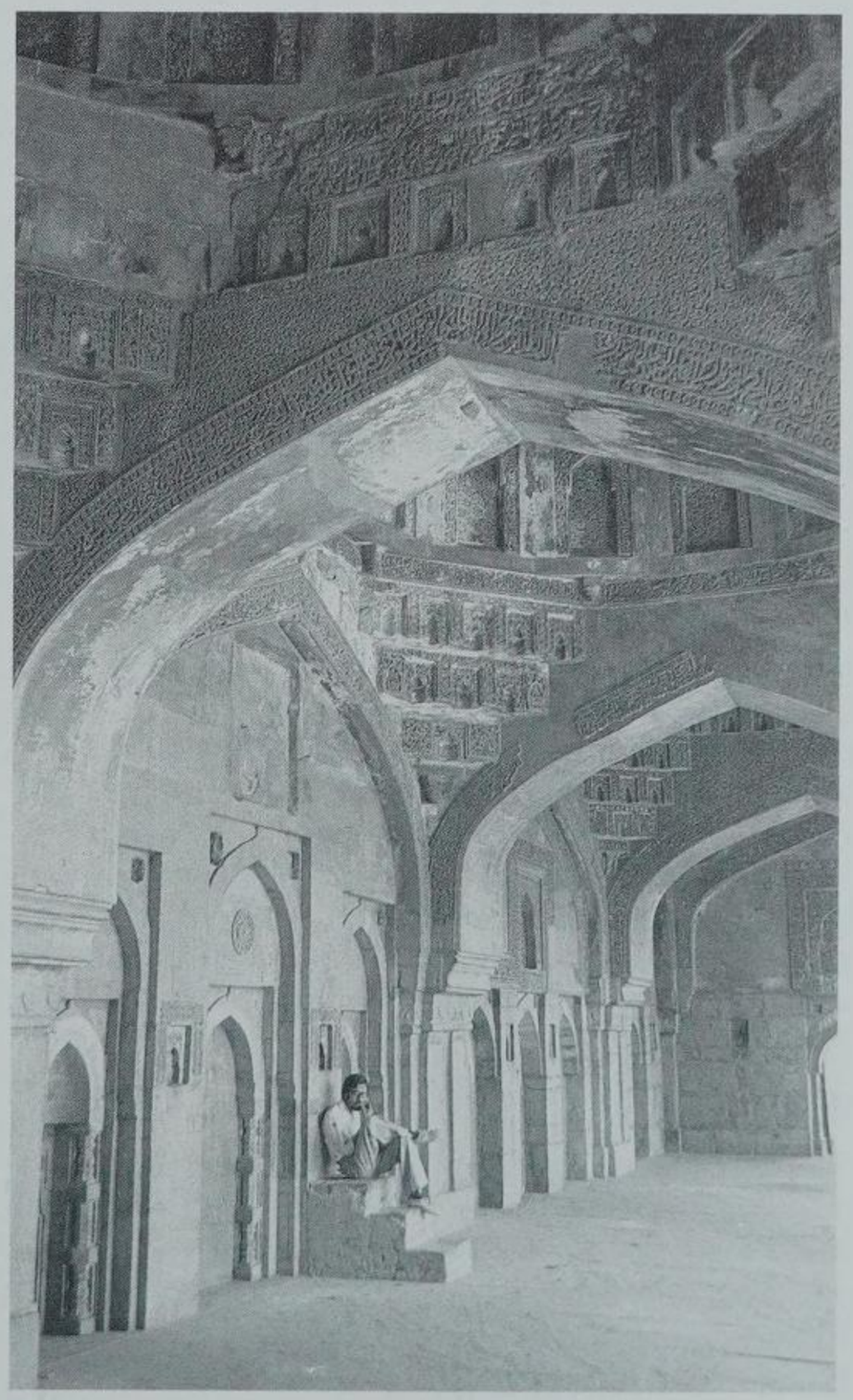
194 (d)

194 (e)

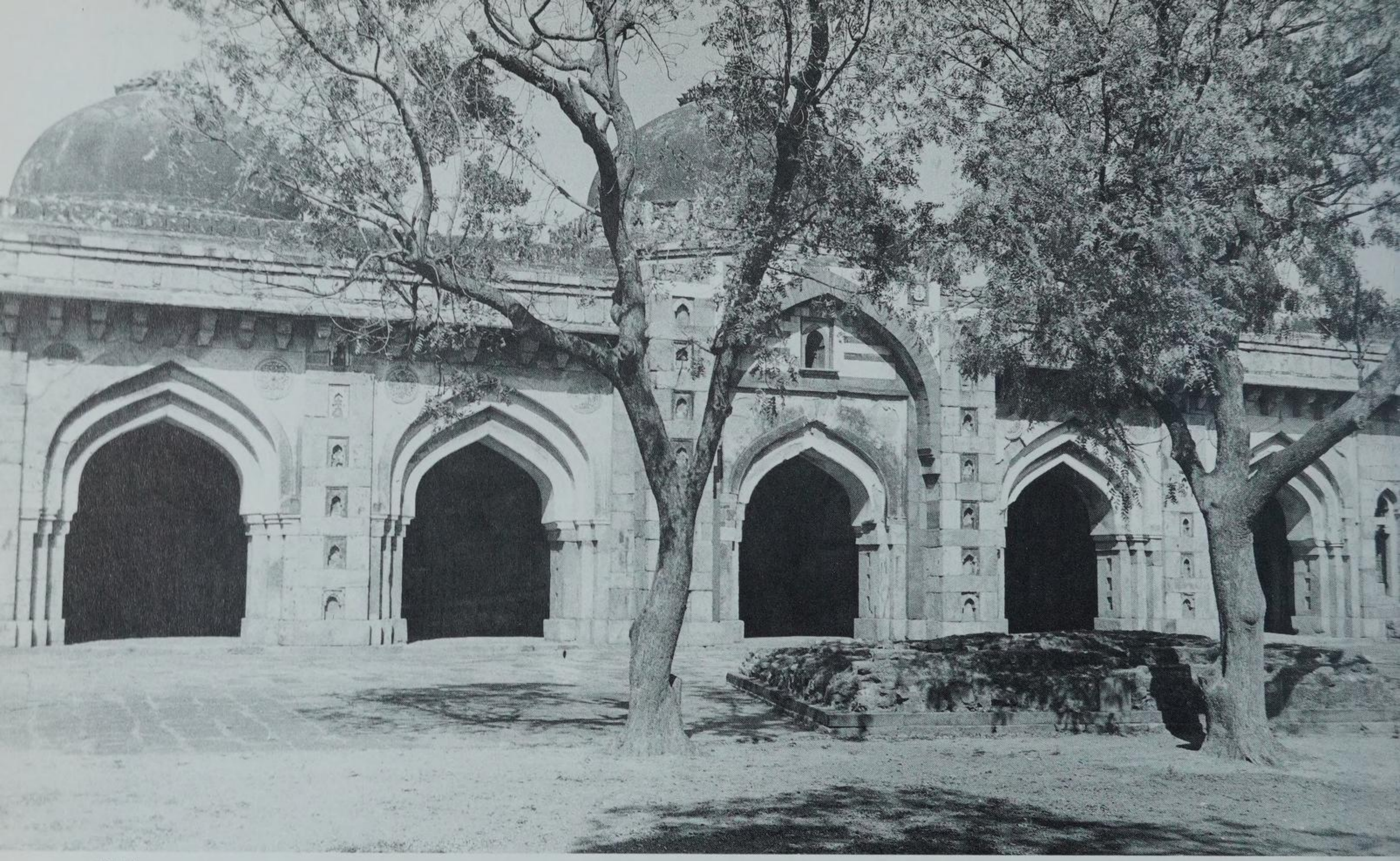
183(d),(e) by the Sayyid rulers and Sikander Lodi while the *qubba* form developed by their Tughlaq predecessors was reformed with reference back to the Alai Darwaza for countless noblemen.

Developing the octagonal type, the tombs of Mubarak Sayyid and his son Muhammad (at Mubarakpur and in Delhi's Lodi Gardens respectively) reinforced the corners with battered piers, enhanced the continuous *chadya*, replaced the low cupola over the central bay of each side by octagonal *chattris* with elaborate brackets to their plain stone shafts. Further, the dome of the later work is raised over a taller drum and a shallow cusped dome, stuccoed and painted,

183(e) covers the central bay of each arcade. Sikandar Lodi's tomb is the most distinguished one of his era. In a raised compound



194 (f)



195 (a)

with a grand entrance portal to the south and a mosque to the west, it achieves rather simple clarity with a higher dome and no *chattris* over triple arcades on doubled piers and deep *chadyas*. The decoration of the tomb-chamber vault in these works recalls the scheme adopted by Firoz Shah.

In the square *qubba* type, design involved varied stonework delineating an increasing number of bays and registers, and, significantly, *chattris* were added on the corners. The Kale-Khan-ka-Gumbad (at Mubarakpur) and the Bara and Shish Gumbads (in the Lodi Gardens) are typical of the late-15th century noble mausoleum in Delhi. In them *iwan* frontispieces, with trabeated or arcaded portals, are flanked by blind arcades superimposed in two registers over a basement. In the similar and contemporary Chhota-Khan-ka-Gumbad (at Mubarakpur), *chattris* appear on each corner beside the drum of the high dome. Early in the 16th century the proportions were modified by the introduction of a third storey, notably in the Dadi Gumbad and the Bagh-Alam-ka-Gumbad (between Green Park and Hauz Khas). In the contemporary Bare-Khan-ka-Gumbad (at Mubarakpur) 183(c)
a third bay was added to each side facade, crowned with *chattris*, and the corners were reinforced as moulded piers. Executed in plastered rubble, the composition depended on applied ornament – presumably tiles – rather than an architectonic contrast of stone and marble and without it the tombs of the period sadly lack distinction.

Apart from several small funerary works, not until Sikandar's reign does significant mosque building recur, the modest Bara Gumbad Masjid in the Lodi Gardens opening an important series which develops the traditional plan rather than the satisfying, but inappropriate, innovations of Tilangani. The architect here reverted to the type of the *madrasa masjid* at Hauz Khas, with a five-bay prayer hall and a semi-open court defined by its podium. In the self-contained free-standing range of arcades which forms the prayer hall, an attempt has been made at dynamic composition by the

195. Delhi, Moth-ki-masjid: **(a)** prayer hall from east; **(b)** central *mihrab* bay.

195 (b)

somewhat arbitrary differentiation of the central three domed bays and the imposition of a frontispiece, stuccoed and lavishly decorated with arabesques and calligraphy like most of the interior. The rear wall is plain though tapering turrets mark the corners and balconies relieve the sides.

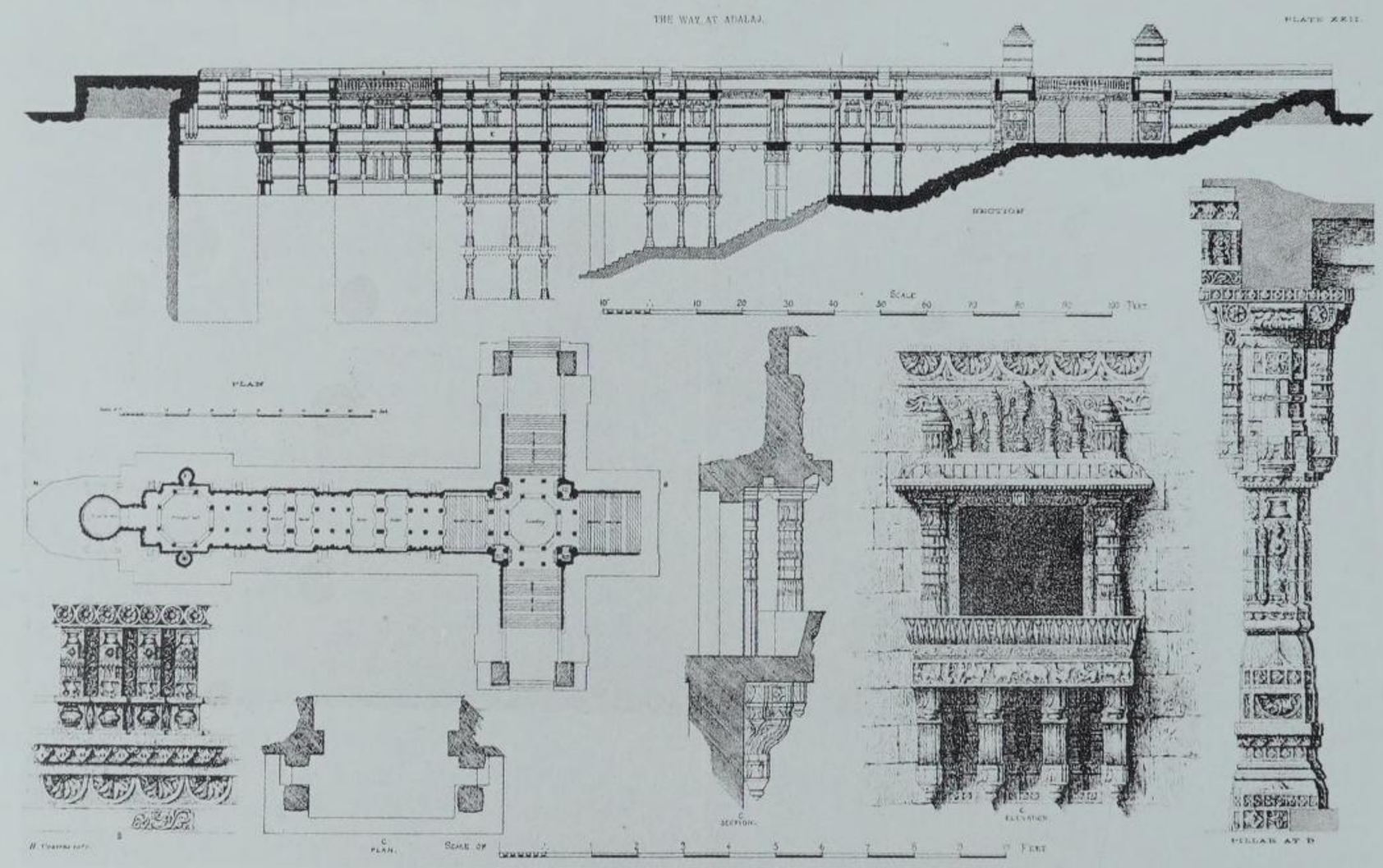
The masterpiece of the Lodi era is the Moth-ki-Masjid, built early in the new century at Siri by Sikandar Lodi's vizier. It stands on a raised platform, with low walls to the north and south and an entrance screen with a monumental gateway to the east. The centralization of its arcaded facade is achieved more subtly than in the Bara Gumbad Masjid, with sophisticated masonry in place of tile-covered rubble. Each bay is domed, producing a more effective distribution of weight on the skyline, and though the arches are consistent in size and relief, the outer plane of the central one is raised with its panelled piers to form an *iwan* frontispiece which interrupts the deep *chadyas*. The piers between the intermediate bays echo those of the frontispieces in a lower key and the whole composition is closed at the ends by broad piers pierced with elegant niches, rather than diminished bays. The back now has two-storey octagonal towers instead of tapering minarets and *chattris* mark the outer corners of the court. The contrast in the colour and texture of the red sandstone for the mass and the grey granite for the detail has been used to great effect inside and out. It is supplemented by stucco over the arches of the *qibla* and end bays where delicate medallions fill the spandrels. Here arched squinches support full domes but in the intermediate bays, *muqarnas* support cusped domes.

Gujarat

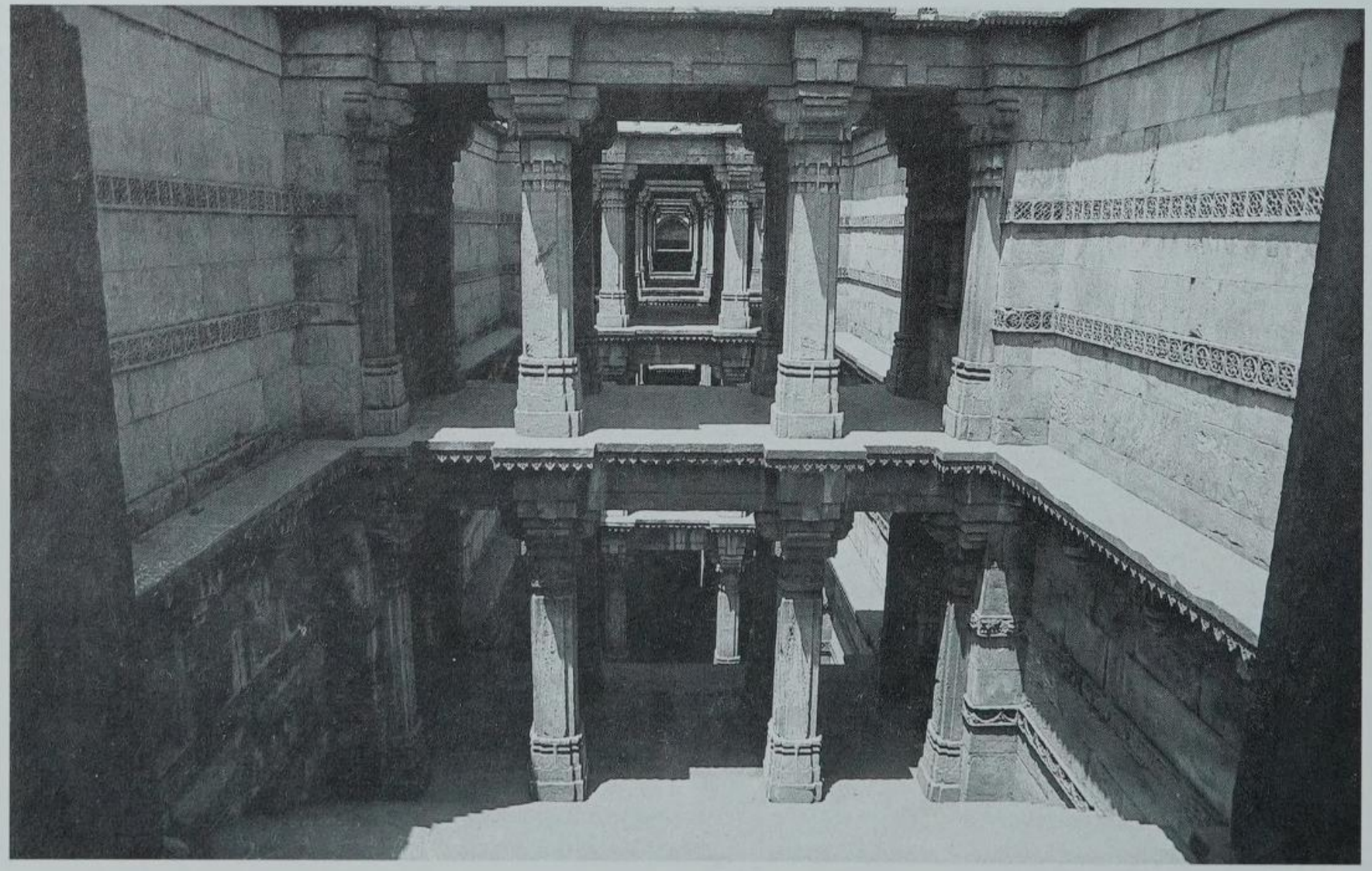
The earliest centres of Muslim culture in India outside the Sultanate were in Sind and the ports of Gujarat, where Arab traders had long been domesticated, but of the oldest works in either only fragments survive. Established in the Solanki domain when its rich cultural tradition had just reached maturity and anxious to assert their own magnificence, the Muslim rulers of Gujarat were as prolific as patrons as their Hindu predecessors and Jaina contemporaries. Moreover, dependent at first on the spoils from Hindu sites and on local craftsmen always, they sustained the most prolix of Indian styles despite the change in religion and the abrogation of traditional guild authority. The Sultanate's viceroys initiated the first phase of Muslim building in the area, but only with extensive demolition and adaptation of Hindu temples, to provide mosques and tombs in their capitals and ports – first Patan, the Anhilavada of the Solankis, then Cambay, Broach and Dholka.[13]

With the accession of Ahmad Shah (1411–42) as the independent sultan of Gujarat, Ahmadabad was founded as the capital on a Solanki site. Theory notwithstanding, in practice few Indian cities were decidedly formal in plan but here a great axial thoroughfare, spanned by a magnificent triumphal arch, the Tin Darwaza, linked the citadel with the Jami-masjid, itself aligned with the tombs of the ruler and his wives. Little survives of the original palace. Amongst the utilitarian facilities of the town, however, much is left of an outstanding series of public wells (*wavs*), provided in accordance with a tradition – and incorporating considerable work – that goes back at least to the Solankis. More than merely sources of water devised for maximum retention, they are subterranean retreats originally associated with ritual ablution. Imposing flights of steps lead to the water-table between deep retaining walls and sumptuous chambers open from galleries superimposed about the well shaft.

Of the capital's many mosques, some reverted to the primitive type with open facade represented in the area by the Jami-masjid of Broach. The majority developed the arcaded screen type most popular in Delhi and represented by the Jami-masjids of Dholka and Cambay, with Hindu pillars – or pillars produced by Hindu craftsmen – visible through the arcades. As in contemporary Timurid Iran – and



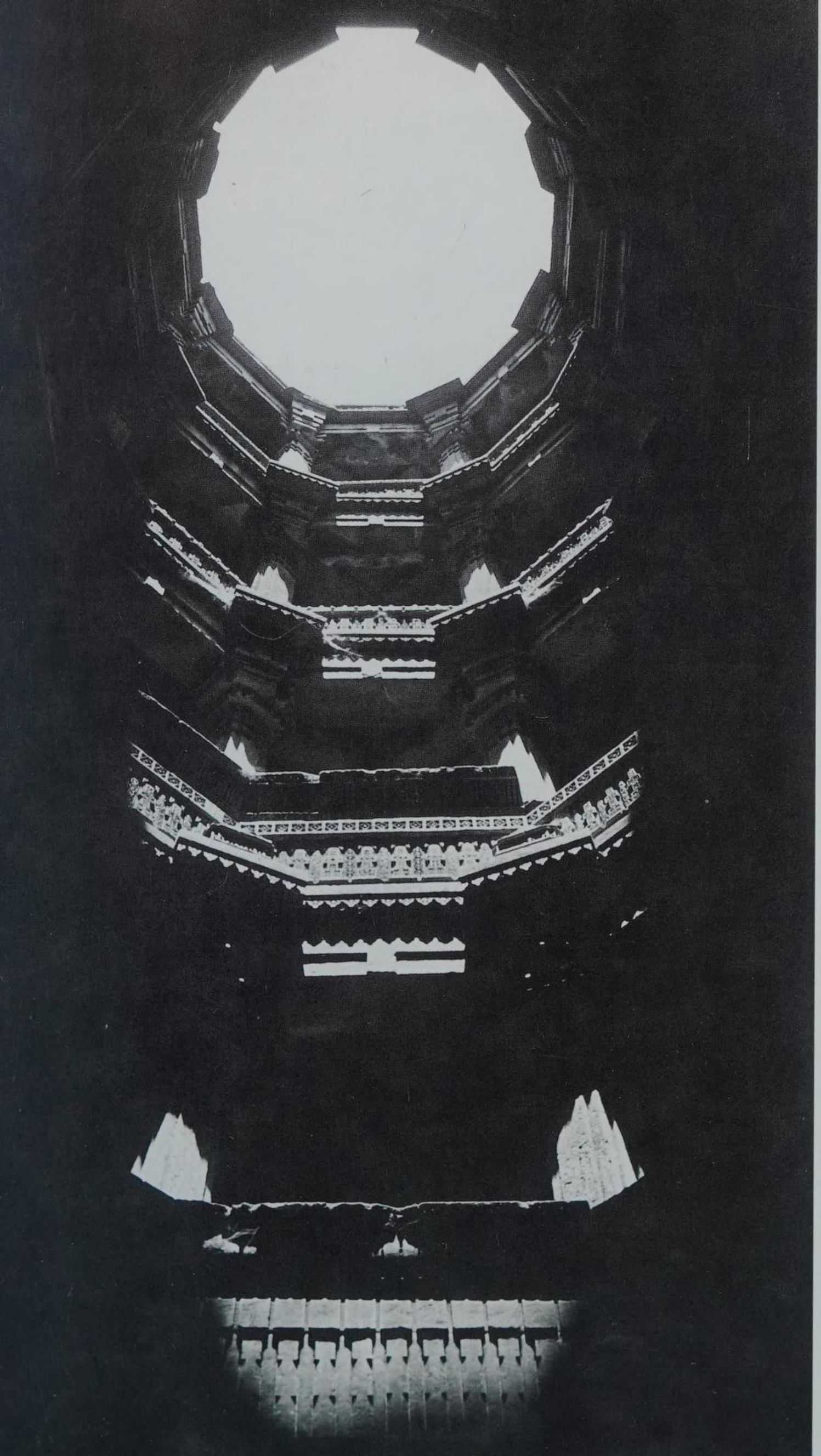
196 (a)



196 (b)

196 (c)

196. Ahmadabad, step wells: **(a)** plan, section and details of Rudabai's Wav at Adalaj; **(b–c)** steps and well shaft of Dada Hari's Wav at Asarwa.



Delhi's Begampuri mosque – the minarets rise from the ground. Major stages in the development of the dominant type are marked by the mosque of Ahmad Shah and the sultan's greatest foundation, the Jami-masjid.

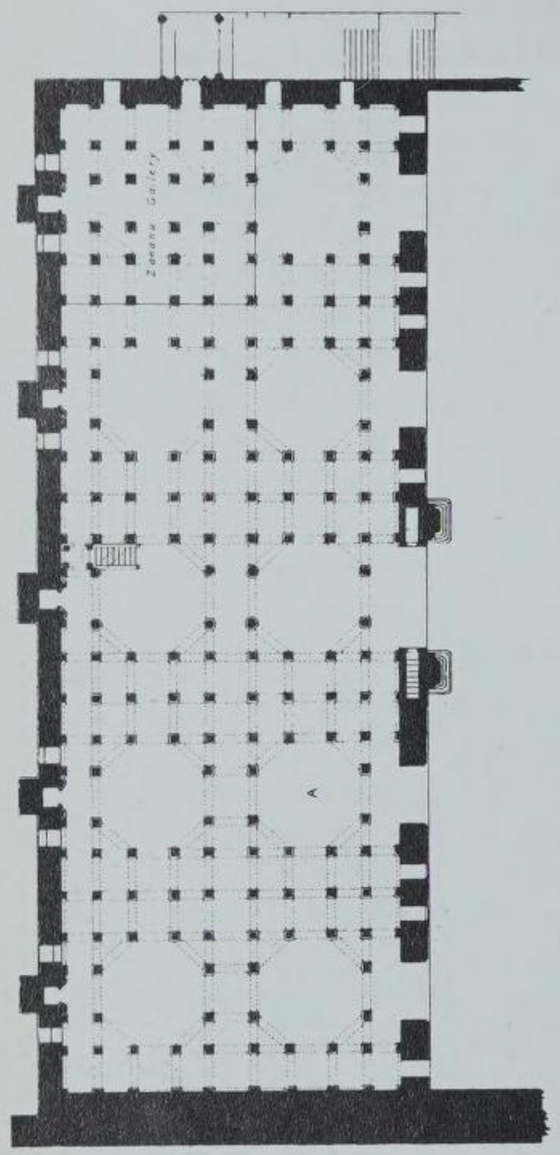
The earlier of these retains Hindu pillars – once doubtless plastered – behind a simple arcaded facade with a slightly projecting frontispiece. Unlike their simple Delhi counterparts, the minarets are applied to the outer face of the frontispiece and their bases have much of the complexity of Solanki piers. In the unsurpassed Jami-masjid, with five large chambers to its prayer hall, the arcaded facade screens only the three central zones but there is a clear progression in height from the trabeated outer bays to the arcaded intermediate ones and on to the great central frontispiece with its Solanki-inspired piers and gorgeous screened windows. This responds to an increasing number of superimposed galleries within – the central chamber with flying arches rivalling the great open halls of the Jainas. Where it rises above the roof line the superstructure has *jali* screens and elaborately screened, to, is the raised *zenana* in the north wing of the prayer hall.

Standing before the eastern entrance to his mosque, the sultan's tomb set a precedent for the tombs of later rulers, noted saints and the principal officers of the state. Square, it has deep screened colonnades leading from porches at the cardinal points to the main tomb chamber whose great corbelled vault rests somewhat haphazardly on beams extended between pilasters in the arcaded walls. The Tomb of the Queens (Rani-ka Hujra), continuing the axis east, is a raised open court surrounded by doubled colonnades with screens supported on the central range of pillars.[14]

The principal work of Ahmad Shah's son Muhammad (1442-51) is the vast necropolis at Sarkhej founded for the saint Sheikh Ahmad Ganj Bakhsh. Its mosque emulates the Ahmadabad Jami-masjid in scale and plan but reverts to the type of unscreened prayer hall, unvaried in height. For the Sheikh's tomb at the center of the complex, variation on Ahmad Shah's theme produced a screened hypostyle hall with a central chamber defined by twelve columns.

Sarkhej was also a scene of considerable activity under Mahmud I Begarha, whose accession in 1459 inaugurated fifty years of vigorous patronage culminating in the foundation of a new capital at Champanir. Apart from the necropolis of Shah Alam (1475) on the outskirts of Ahmadabad, the palace and Mahmud's own tomb at Sarkhej, the Jami-masjid at Champanir (1508) and the ruined palaces there, the era is particularly notable for its mortuary complexes (*rauzas*).[15]

The tomb and mosque of the *rauza*, matching in exquisitely refined detail, confront one another across an open court. The tomb usually follows the model provided by Ahmad Shah. The mosque, naturally, is of the unscreened variety. For want of a frontispiece to the prayer hall, minarets were applied to the front corners but, tending there to deny the



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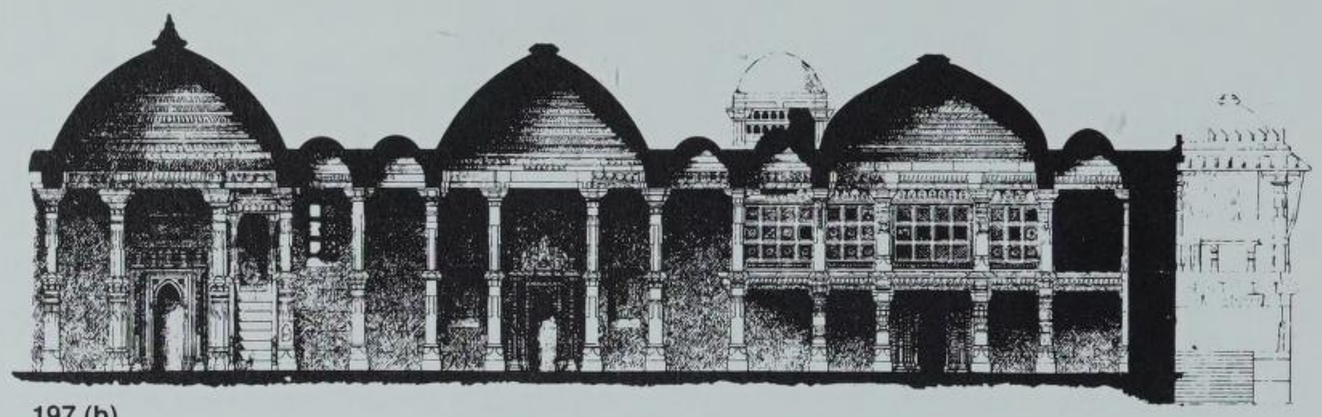

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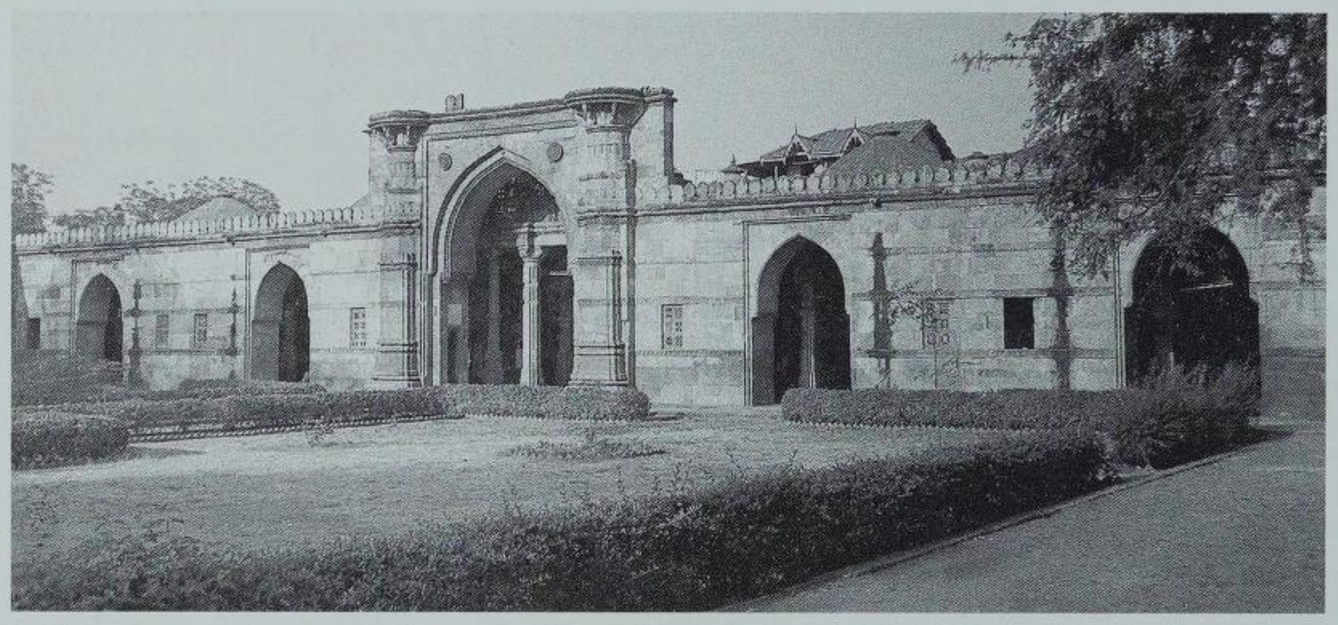
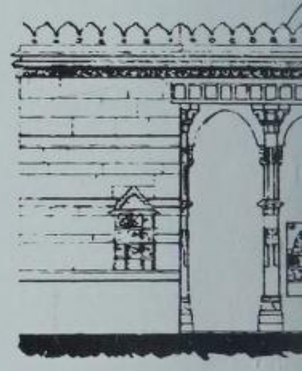


197 (c)

197. Ahmadabad, mosque of Ahmad Shah: **(a)** plan (1:500); **(b)** half-section north-south; **(c)** prayer hall from north-east.



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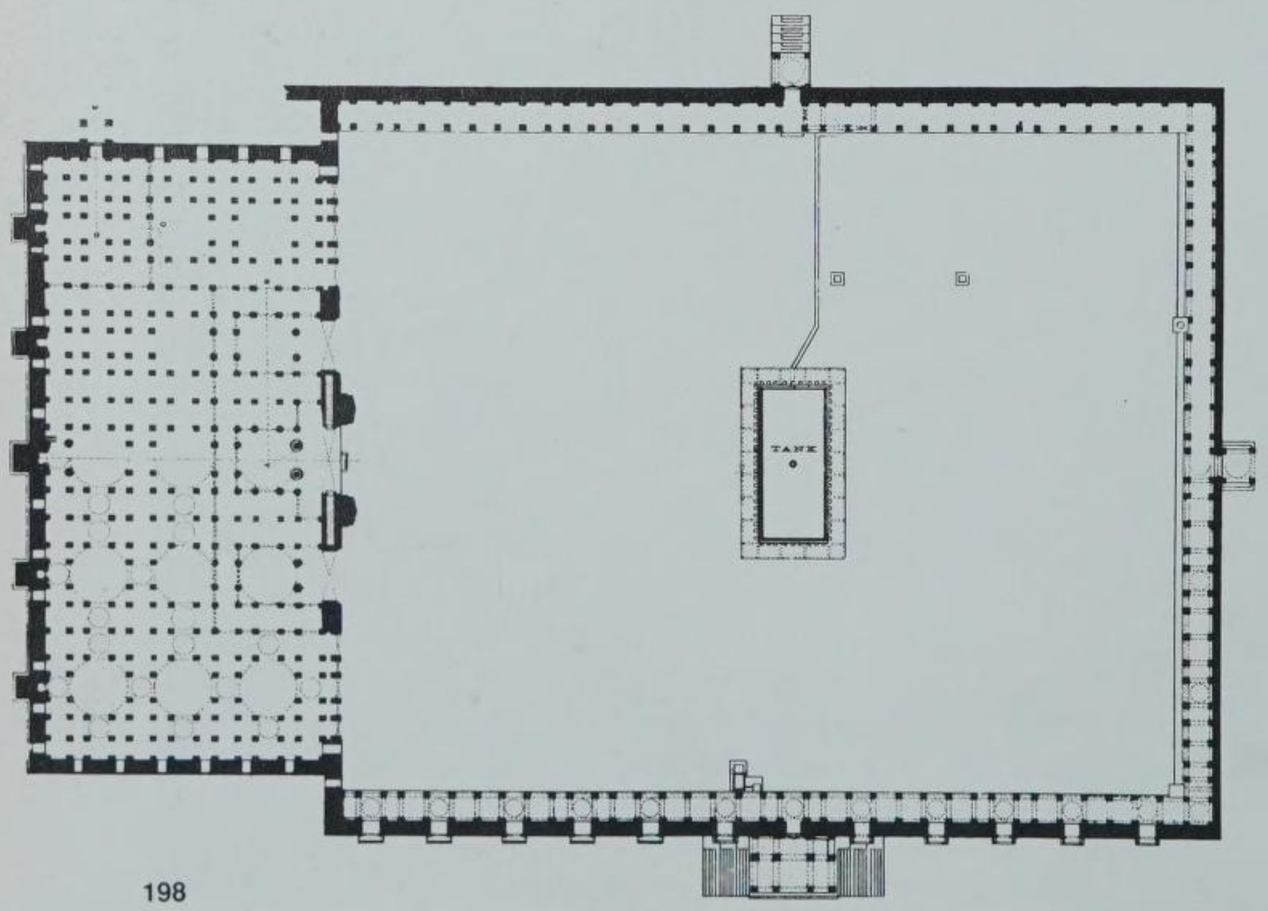

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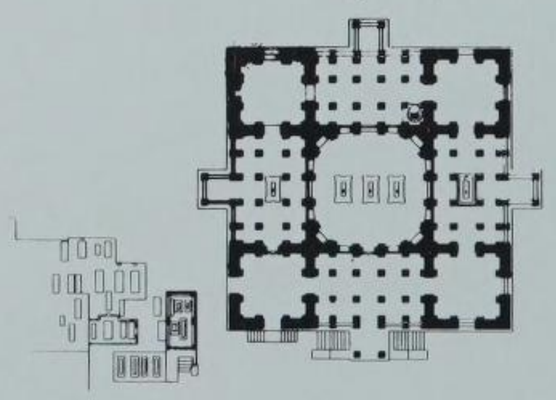
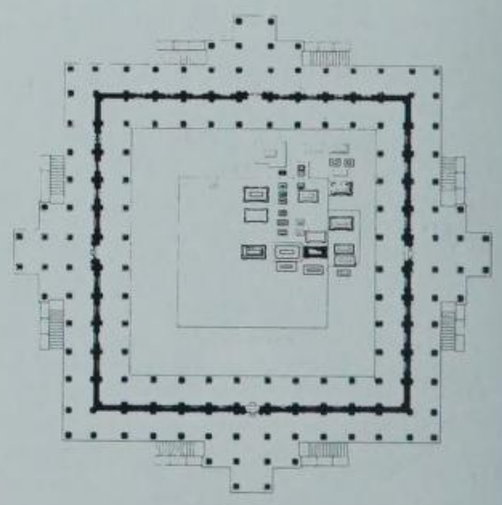
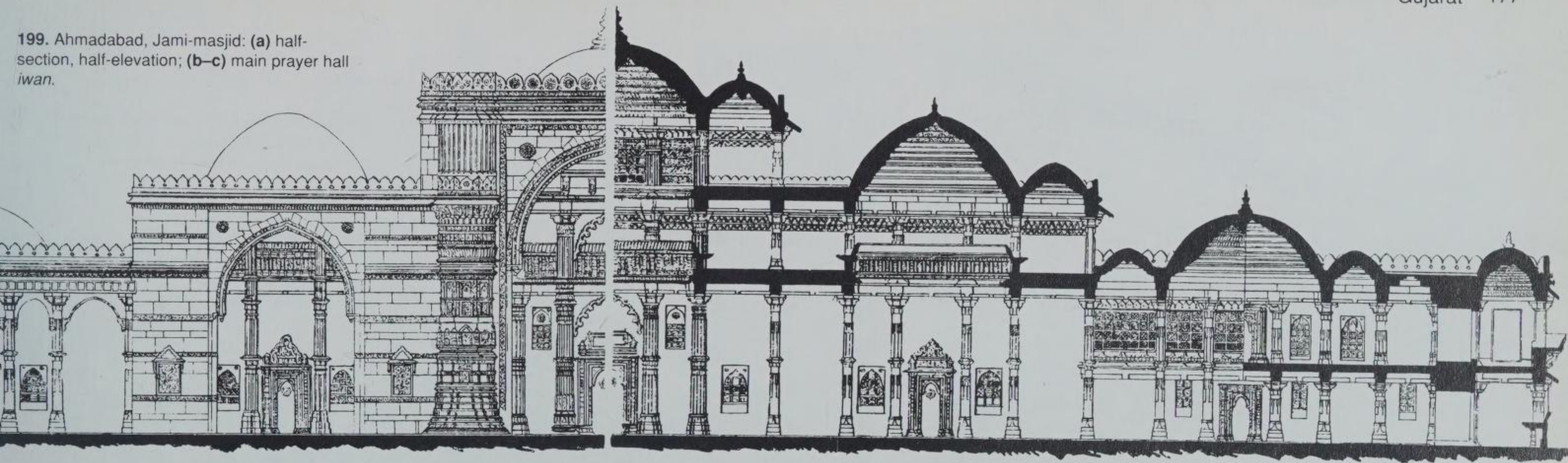




198. Ahmadabad, plan (1:1000) of Jami-masjid and tombs of Ahmad Shah (centre right), his queens (extreme right).

199. Ahmadabad, Jami-masjid: **(a)** half-section, half-elevation; **(b–c)** main prayer hall *iwan*.



199 (b)

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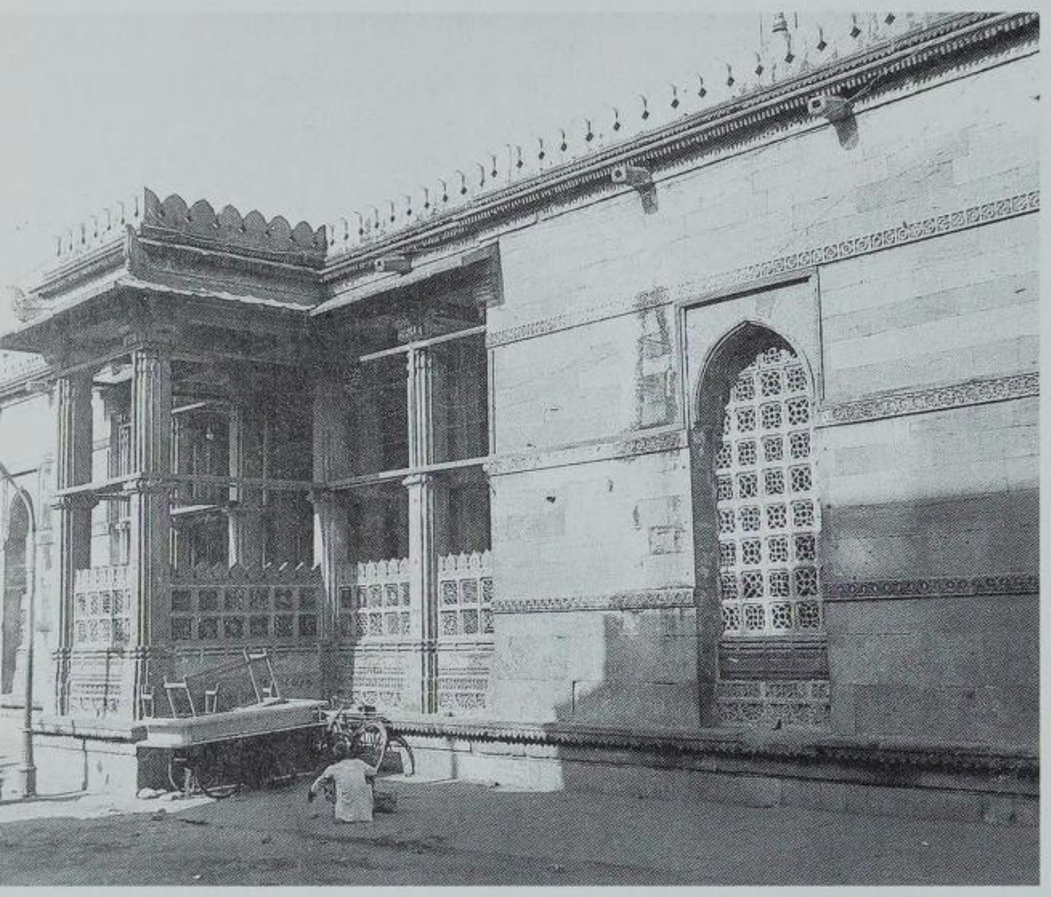
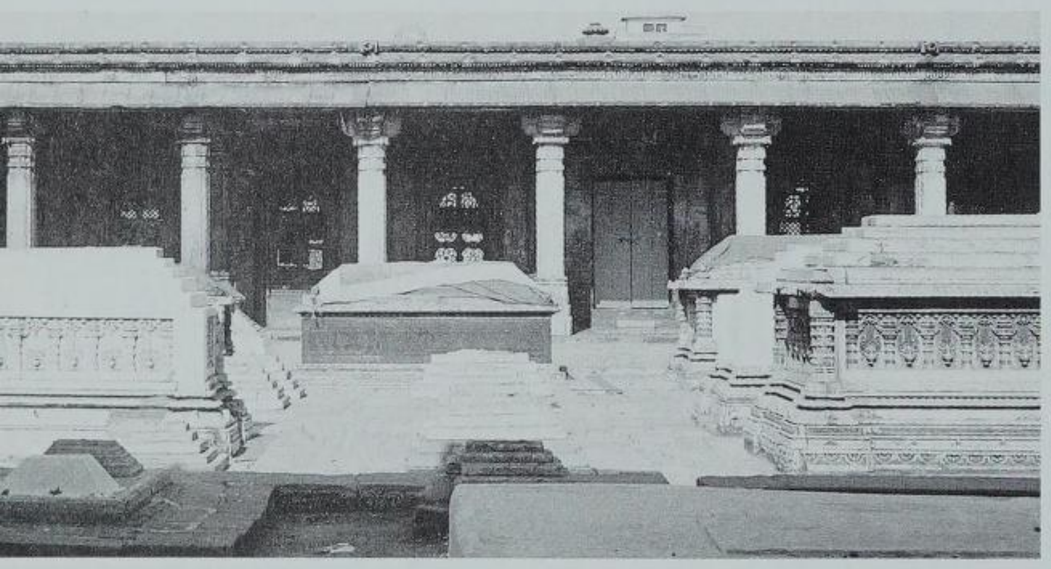


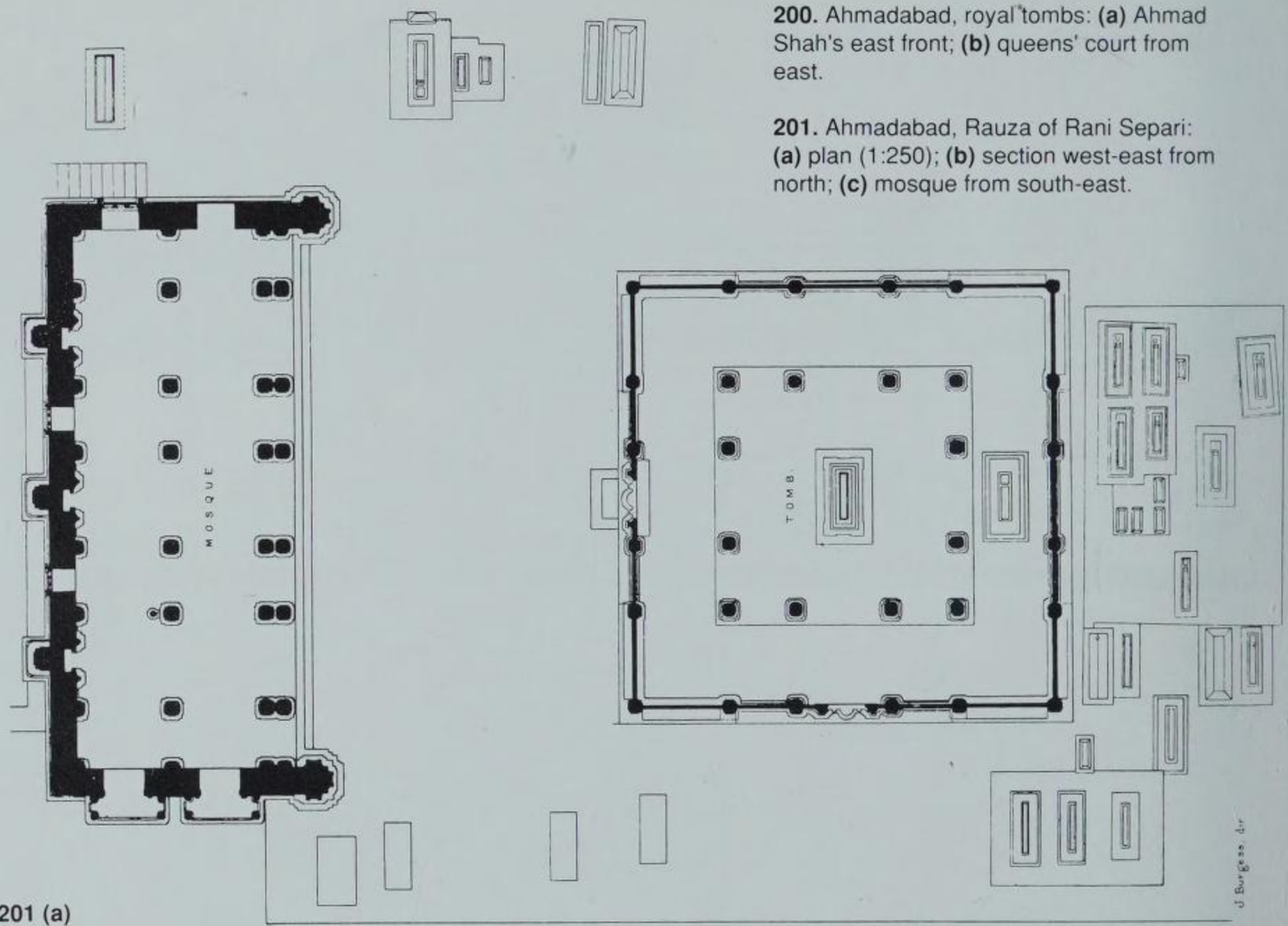
200 (a)



200 (b)

200. Ahmadabad, royal tombs: **(a)** Ahmad Shah's east front; **(b)** queens' court from east.

201. Ahmadabad, Rauza of Rani Separi: **(a)** plan (1:250); **(b)** section west-east from north; **(c)** mosque from south-east.

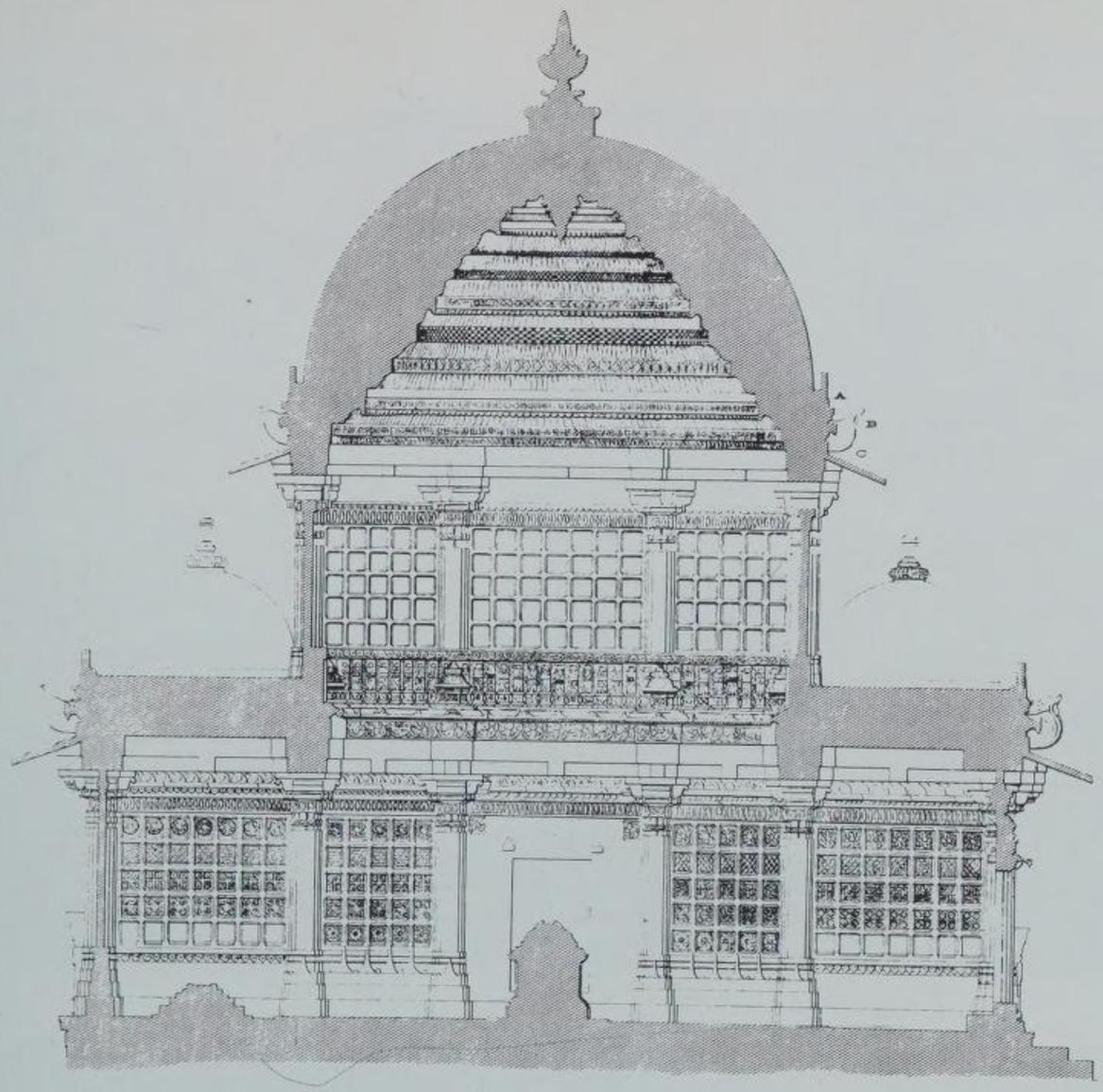


201 (a)

201 (c)

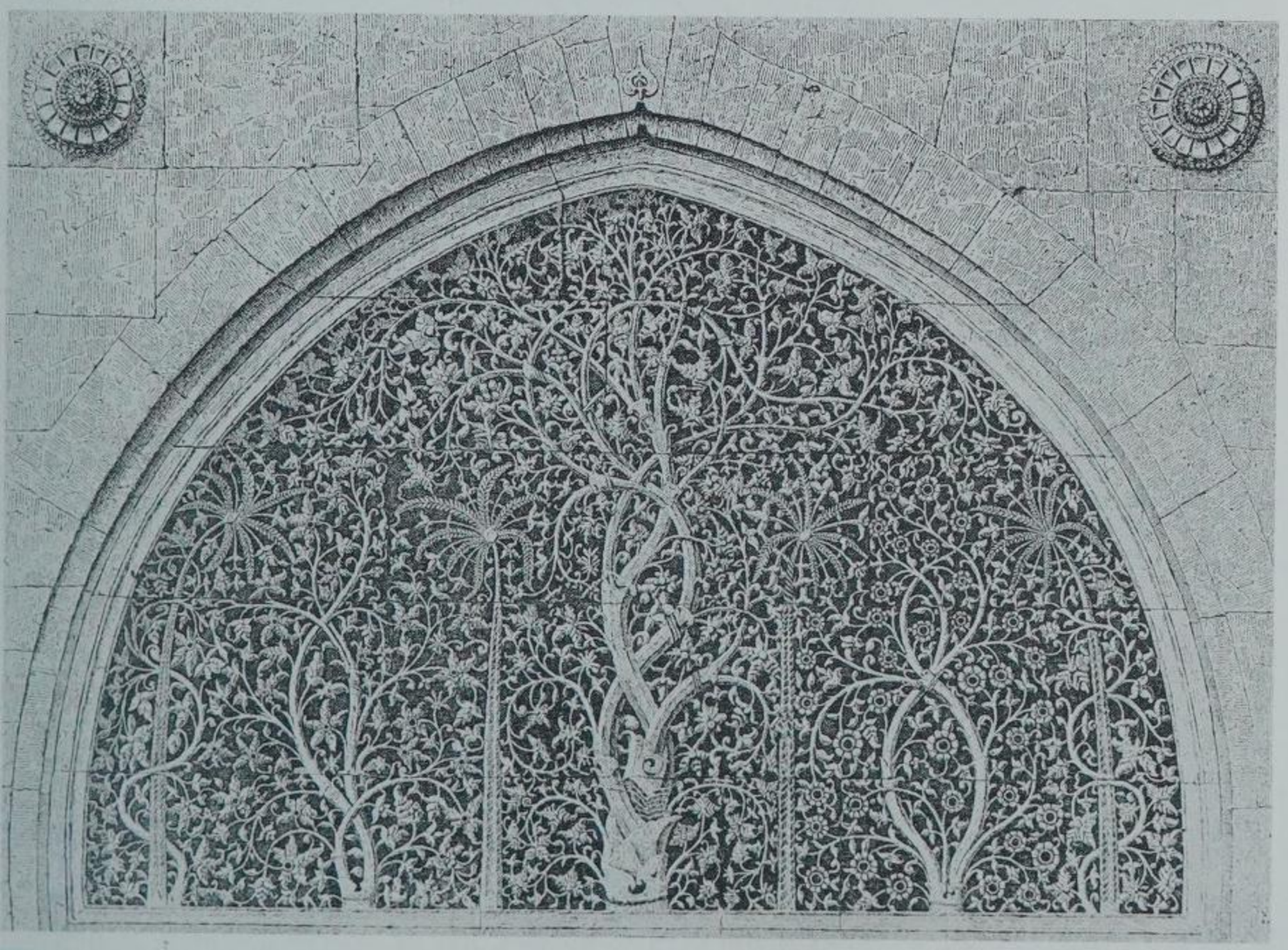
composition integrity, they were progressively reduced in scale until they became mere ornamental turrets – as in the *rauza* of Rani Separi. With this went the proliferation of subsidiary projections such as balconies, and the finely chased elaboration of detail.

In the congregational mosques of the period arcaded screens cover the whole front of the prayer hall. Arches, too, play an increasingly important role in structure, often replacing the formerly ubiquitous column and beam, though ceilings are rarely vaulted. The Jami-masjid of Champanir, though smaller in scale, rivals that of Ahmadabad in magnificence. The arcaded prayer-hall facade, is relatively plain except for the minarets and the balconies of the frontispiece. The enclosure, in keeping with the general enrichment of forms in this period of affluence, is relieved with elegant buttresses, corner turrets and balconies. Of the three entrance pavilions



201 (b)

202. Ahmadabad, Sidi Sayyid mosque: detail of screened arcade.



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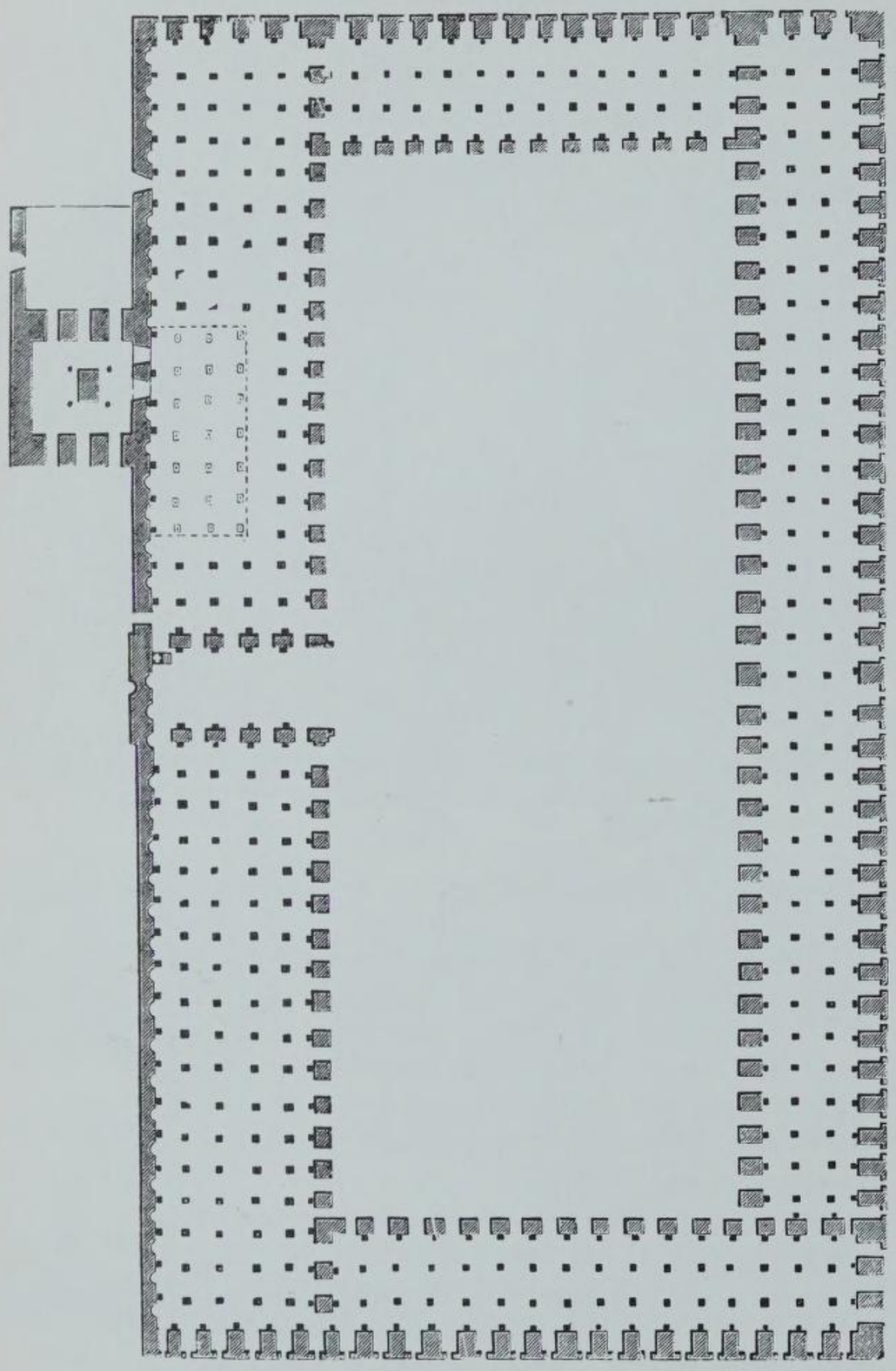
the eastern one is a sumptuous *qubba* with *chadyas* on serpentine brackets and corner *chattris*. Related to this pavilion, but even more richly chased with filigree ornament, are several tombs at the site.

Mahmud Begarha's successors were also prolific, if somewhat decadent, builders – and their work had its influence in neighbouring states, notably Khandesh under the late Faruqi rulers – until their domains were absorbed by Akbar. The mosque at Shah Alam (1552) is a prominent, if sterile, example and the palace of Mahmud III (1538-54) is another of the dynasty's rare departures into the brick and plaster, arcuate tradition. The last significant work in the capital, the Sidi Sayyid Masjid is datable to 1572. All the bays of the unscreened prayer hall are arcaded yet none is vaulted – the arch being used as a beam – but in addition to a wide variety of corbelled and bracketed ceilings, there are a few squinches for exotic effect. The outer bays are screened above a high socle – the intermediate ones of the *qibla* range unsurpassed in intricacy and sensuousness in all India.

Bengal

When the Muslims conquered Bengal hardly five years after the fall of Lal Kot, they founded their capital, Gaur, at Lakhnauti – the seat of the Senas at the junction of the Ganges and the

21(c)



203 (a)

203 (b)

203 (c)

Mahanadi. Framing the later ruins on the site is a considerable part of the great moated, rectangular, earthern ramparts – over 10 metres high and 60 metres at the base – which must rank amongst the most tangible surviving realizations of ancient Hindu *shastra* principles. Like their Hindu predecessors, the Muslims maintained this bulwark and its causeway as much to protect themselves from the forces of nature as to withstand those of man but both have destroyed much where brick and bamboo are the traditional materials.[16]

The history of Islamic architecture at Gaur may be divided into two phases. In the first, from the beginning of the 13th century to the mid-14th century, when it was still nominally a provincial outpost of Delhi, its rulers, like their peers elsewhere, made liberal use of Hindu material and craftsmen. In the second period, from the mid-15th to the mid-16th century, it was the restored capital of the Bengali Sultanate. In between, the early Ilyas Shahis ruled from nearby Hazrat Pandua.

In and around Tribeni on the Hugly, unlike Gaur, there are substantial remains of the early period, including the mosque and the associated tomb of Jafar Khan Ghazi, adapted from a Hindu temple but incorporating brick walls and perhaps the

203. Hazrat Pandua, Adina Masjid: **(a)** plan (1:1000); **(b)** central prayer hall bay from court; **(c)** *zenana* gallery.

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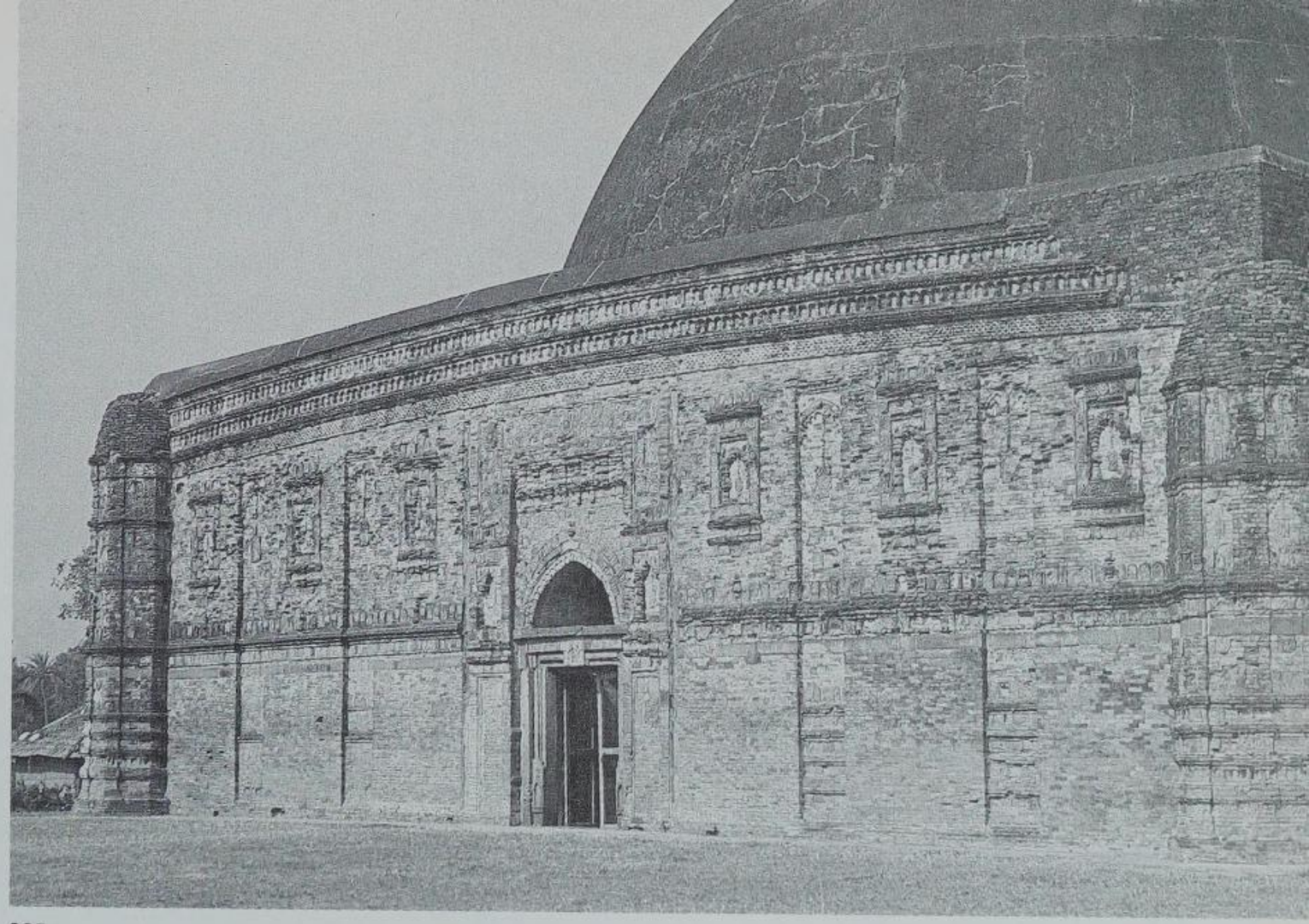

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204. Guar, tomb of Fateh Khan.

205. Hazrat Pandua, Eklakhi Mausoleum.

earliest point arches in the province. At the nearby village of Chhota Pandua the large ruined mosque is the product of a similar pragmatic synthesis of the imported arcuate and native trabeate forms.[17]

The date of the Chhota Pandua mosque is uncertain but it anticipated the vast Adina Masjid built by Sikandar Shah (1358-89) in his new capital, Hazrat Pandua. This emulated the great mosque at Damascus in plan, with three ranges of domed bays surrounding the court to the north, south and east, but the five-aisled prayer hall is interrupted by an enormous *iwan* which clearly belongs to the tradition descended from Ctesiphon – most recently recalled in Persia in the Jami-masjid of Tabriz. Below crisply carved *padmas* and *patra-latas*, the elaborate central *mihrab* has a *kirttimukha* arch. Hindu artisans, even Hindu buildings, may have provided the other *mihrabs*, the door frames, the balconies incorporated in the *minbar*, and the pillars – especially the squat ones with bracket capitals supporting the *zenana* gallery in the north wing of the prayer hall.

172(b)

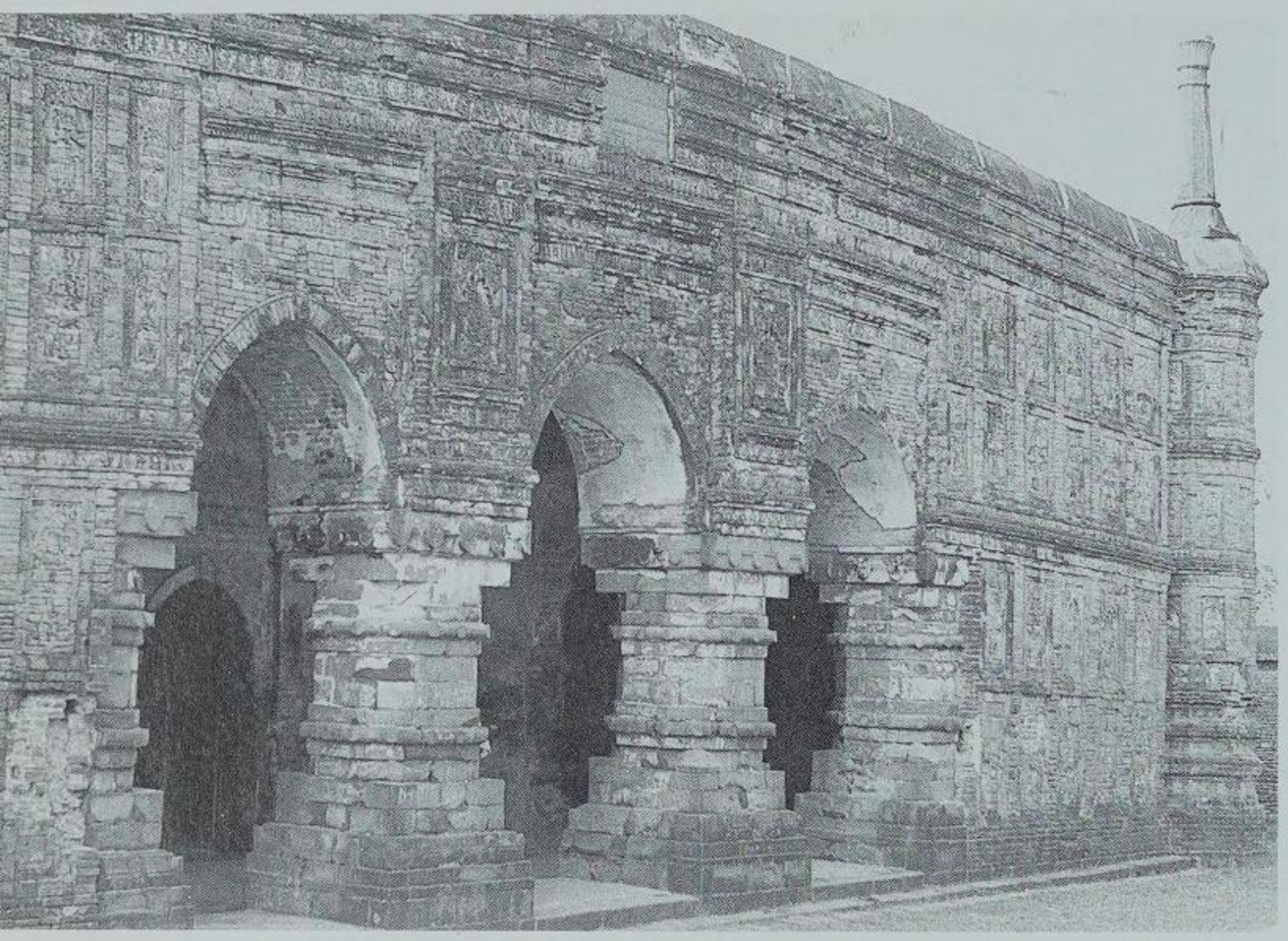
21(b)

Until the late-16th century, when they brought traditional methods to bear on the adaptation of forms developed by the Mughals, Bengal's Muslim builders, like the Hindus before them, referred to the local vernacular for the great majority of their works: the mud and bamboo hut with its curved roof (*bangaldar*) was still the ultimate prototype. Below the cornice, which follows the curve of the low pitched roof, walls are consistently relieved by recessed panels in a rectilinear framework, recalling the timber reinforcement of mud walls. Tombs are usually square and the burial chamber rising above the *bangaldar* may have a dome – as in the Eklakhi mausoleum, one of the last works at Pandua before the capital was moved. The mosques conforming to the type are invariably rectangular, usually of two or three ranges of five arcaded and individually domed bays, but mechanical repetition often produced as many as ten or twelve. In later works the framework of terracotta panels is less assertive and often more monotonous, cusped arches are used for openings and a *chou-chala* may rise over the tomb chamber instead of a dome.[18]

After the capital was moved back to Gaur from Pandua in 1430 the old city was remodelled. A grand thoroughfare was laid out, and about 1465 Barbak Shah spanned it with the triumphal Dakhil Darwaza, aligned with the entrance to the citadel. The pointed arch here was certainly contributed by the Muslims but the beautifully coursed red brick, once relieved by the terracotta ornament for which Bengal is celebrated, represents the vernacular at its finest. This great gate's dominance of the ruined citadel is now rivalled only by the Firoza Minar which marks the final triumph of the Ilyas Shahis before they were swept away by an Abyssinian mercenary in 1489.

21(a)

From the hundreds of examples of the vernacular-derived mosque type, the later-15th century Tantipara Masjid at Gaur may stand for the mature Bengali tradition. Its five arched bays, in slightly projecting rectangular frames and surmounted by elaborate terracotta arabesques in the spandrels, are separated by piers and divided into two registers each with terracotta panels containing blind niches with cusped arches. The interior bays are defined by Hindu columns and the sequence of *mihrabs* along the *qibla* wall is



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210 (a)

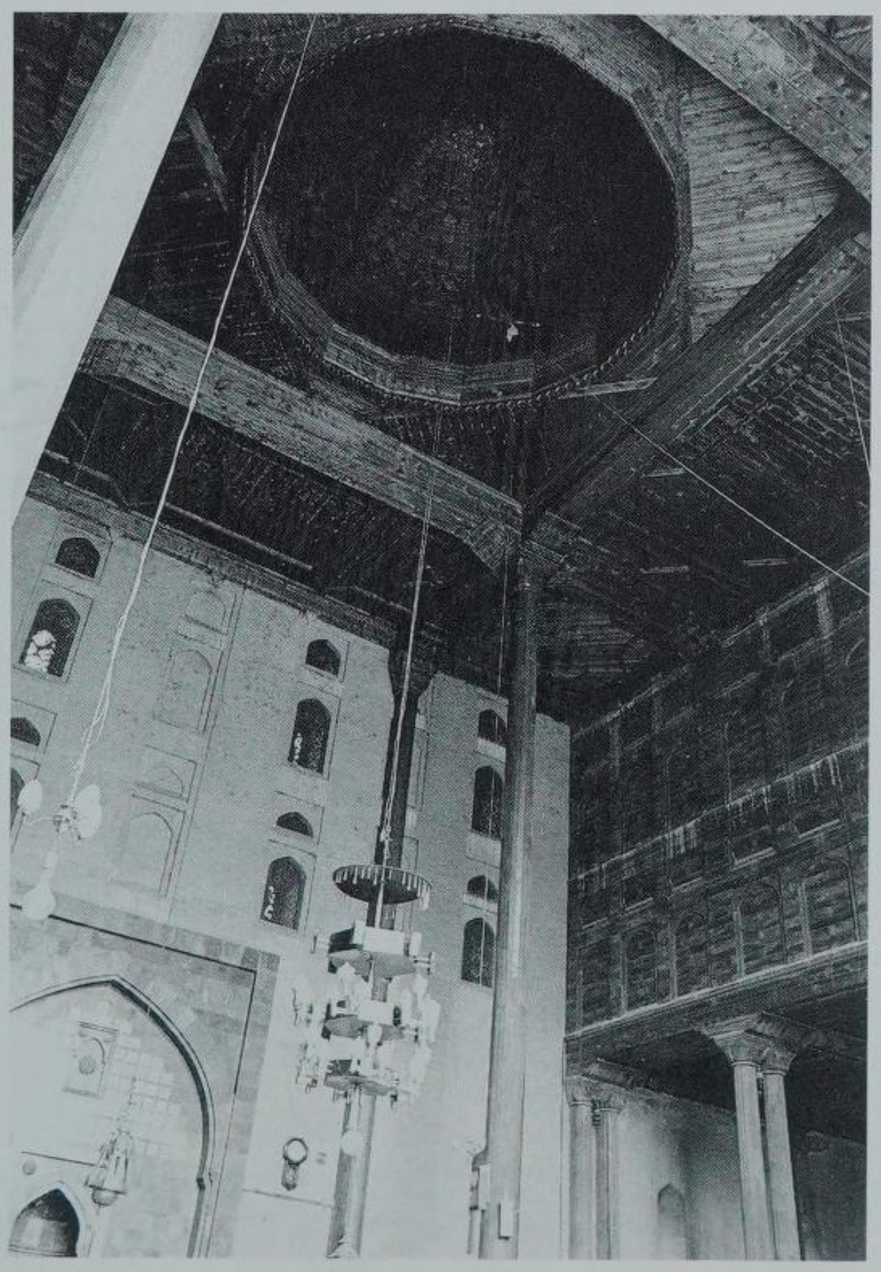
206. Gaur, Tantipara Masjid: prayer hall from south-east.

207. Gaur, Bara Sona Masjid: prayer hall from south.

208. Shrinagar, tomb of Sultan Zainal Abidin's mother.

209. Shrinagar, Shah Hamadan Mosque from south-east.

210. Shrinagar, Jami-masjid: **(a)** court from south-east with main prayer hall left; **(b)** central *mihrab* bay.



210 (b)

enriched with terracotta reliefs. Gaur's Chhota Sona Masjid is a fine example of early-16th century work but the contemporary Bara Sona Masjid represents dry proliferation.

Kashmir

In Kashmir, as in Bengal, the Muslims, who won the province in the fourth decade of the 14th century, began with the conversion of Hindu temples and, thereafter conformed to the local idiom. Amongst the older surviving examples of conversion are the tomb built by Sultan Zainal Abidin (1417-67) for his mother, the tomb of Pir Haji Muhammad Sahid and the Madani *rauza*, all in Shrinagar. These retained a Hindu enclosure and platform, founding the tomb chamber on the base of the *mulaprasada* with its lightly projecting porticos. Zainal Abidin, however, replaced the original *mulaprasada* with an essentially Persian brick pavilion presumably once covered in tiles. Far more common than this imported approach, however, was the pragmatic timber one of the ubiquitous village shrine (*ziarat*) – a simple square structure, usually with verandahs or balconies projecting more or less symmetrically, surmounted by a pyramidal roof and spire-like minaret. The Jami-masjid at Pampur is an early example of the type, built on Hindu foundations, but most notable are the Shah Hamadan and Jami-masjids of Shrinagar.

Shah Hamadan's mosque is a large but simple structure of one *ziarat* pavilion with a richly detailed timber interior capable of sheltering a considerable number of worshippers from the rigours of the climate. The Jami-masjid is a complex conforming in general to the court type with cloisters but the entrances and main prayer hall are *ziarat* pavilions. Originally founded at the beginning of the 15th century, it was rebuilt and overhauled many times, last under Aurangzeb who seems to have respected the existing forms though elsewhere in Kashmir the Mughals promoted their own style.

Jaunpur

Established by Firoz Shah in 1358 on an ancient Hindu site by the river Gumti, Jaunpur was the seat of an independent power after the Tughlaq viceroy Malik Sarwar founded the Eastern (Sharqi) Kingdom in 1394. Firoz Shah's own foundation, the great Atala Masjid, initiated the series of monumental works promoted by the Sharqis which culminated in the Jami- and Lal Darwaza Masjids. Taking their departure from the Begampuri type, their greater monumentality derives not only from the adjustment of the proportions of the main elements, but also from the substitution for rubble of fine grey sandstone and granite won from temples or dressed specifically for them by Hindu masons – whose names are sometimes cut into the fabric.[19]

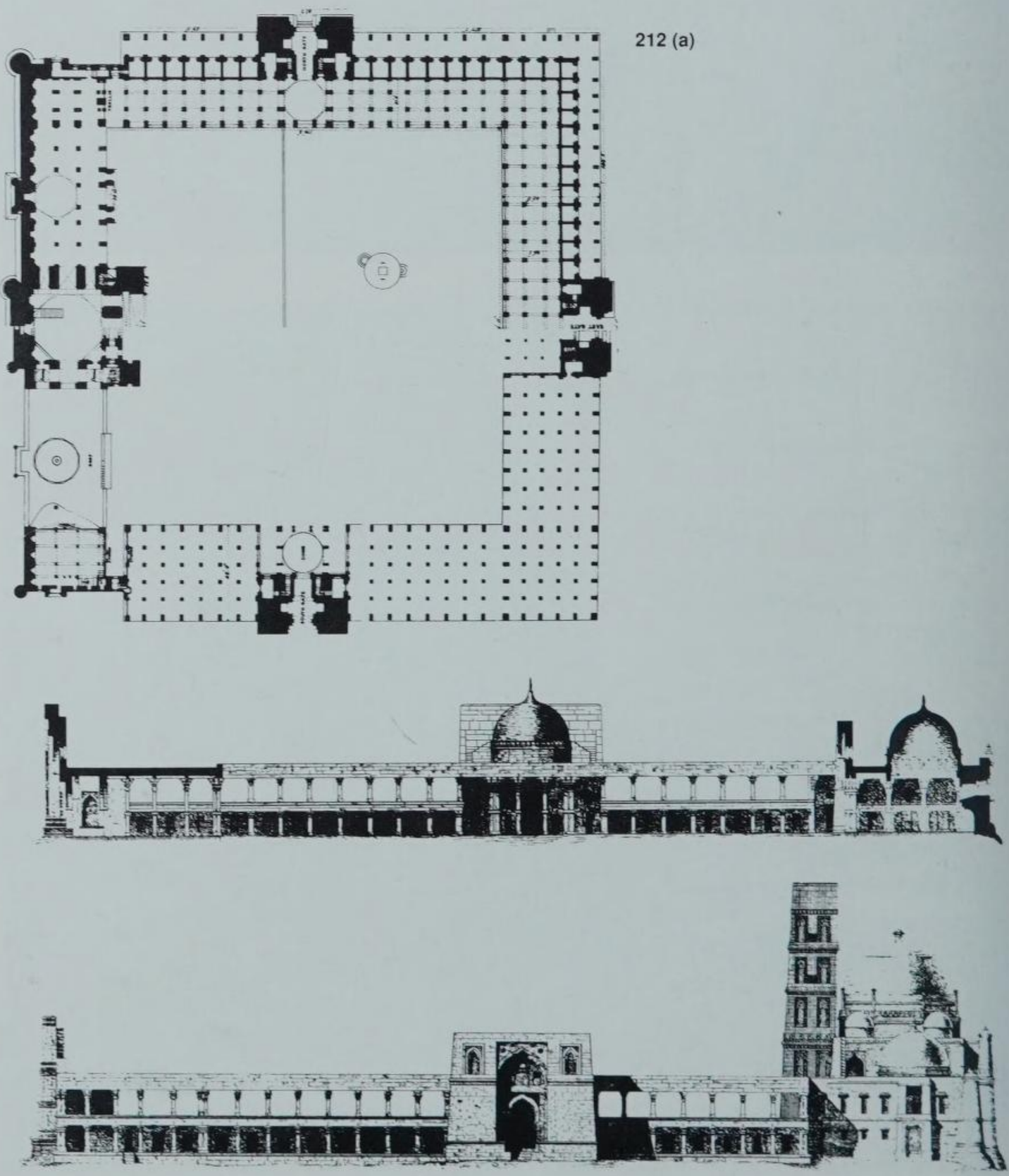
The Atala Masjid's most extraordinary feature is the set of

pylon-like *iwan* frontispieces masking the principal and subsidiary *qubbas* of the prayer hall. With screened arch and trabeated portal, these are far more exaggerated in height than that of the Begampuri and formidable battered towers replace the tapering turret-like minarets of the Delhi mosque. Double-height colonnades replace the Begampuri's arcades for the cloisters and prayer hall. The *qubba* dome is carried on eight valanced arches, four applied to the walls and four thrown across the corners to form squinches, but the domes of the subsidiary prayer-hall chambers and the vestibules within the north and south portals rest on beams disposed to form hexagons and octagons respectively.

211. Jaunpur, Lal Darwaza Masjid: **(a–b)** central *qubba*, frontispiece and squinch detail.
212. Jaunpur, Atala Masjid: **(a)** plan (1:1000), section, north elevation; **(b–c)** *qubba* frontispiece and interior with *mihrab* and *minbar*.

211 (a)

211 (b)



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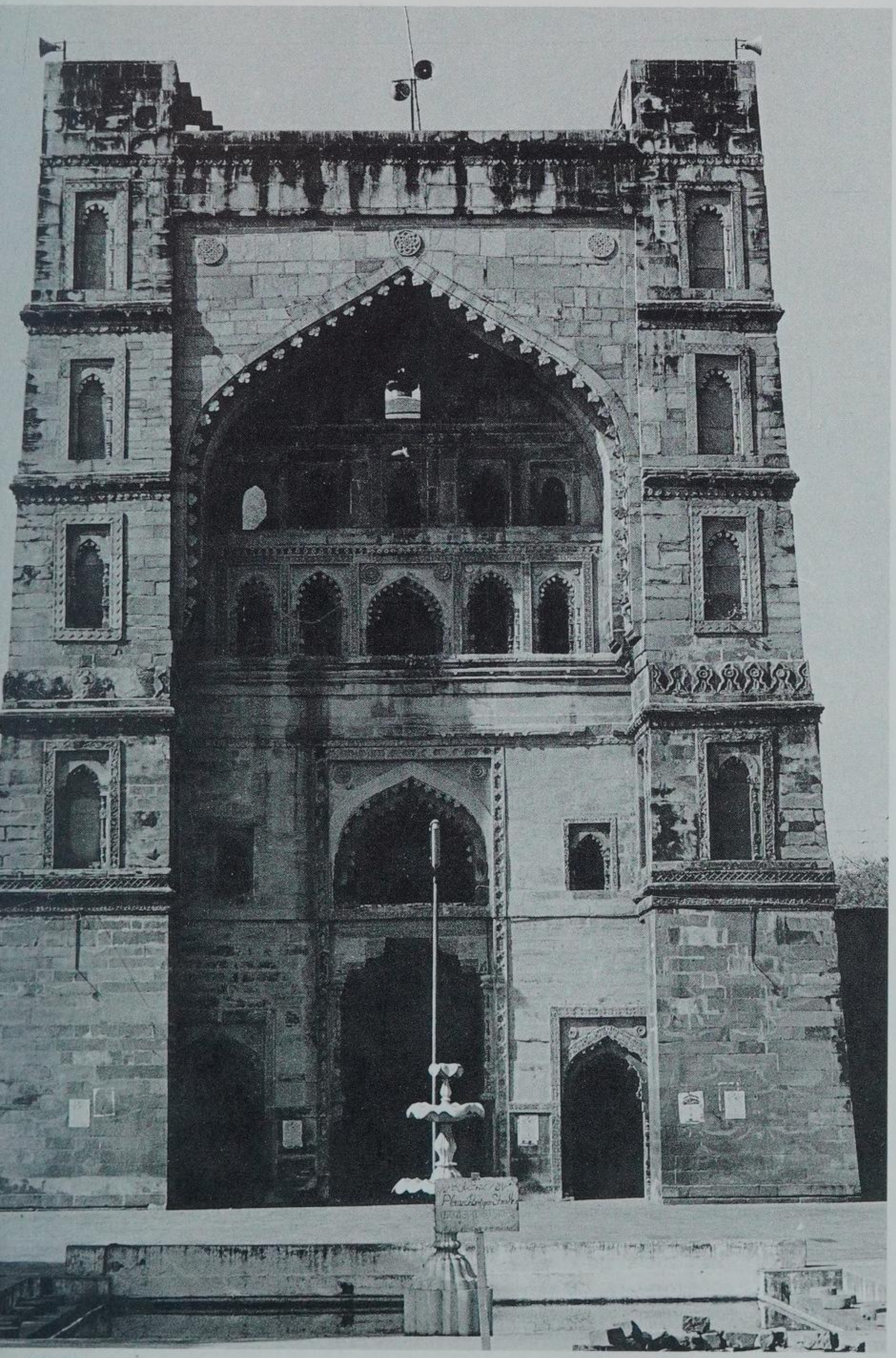
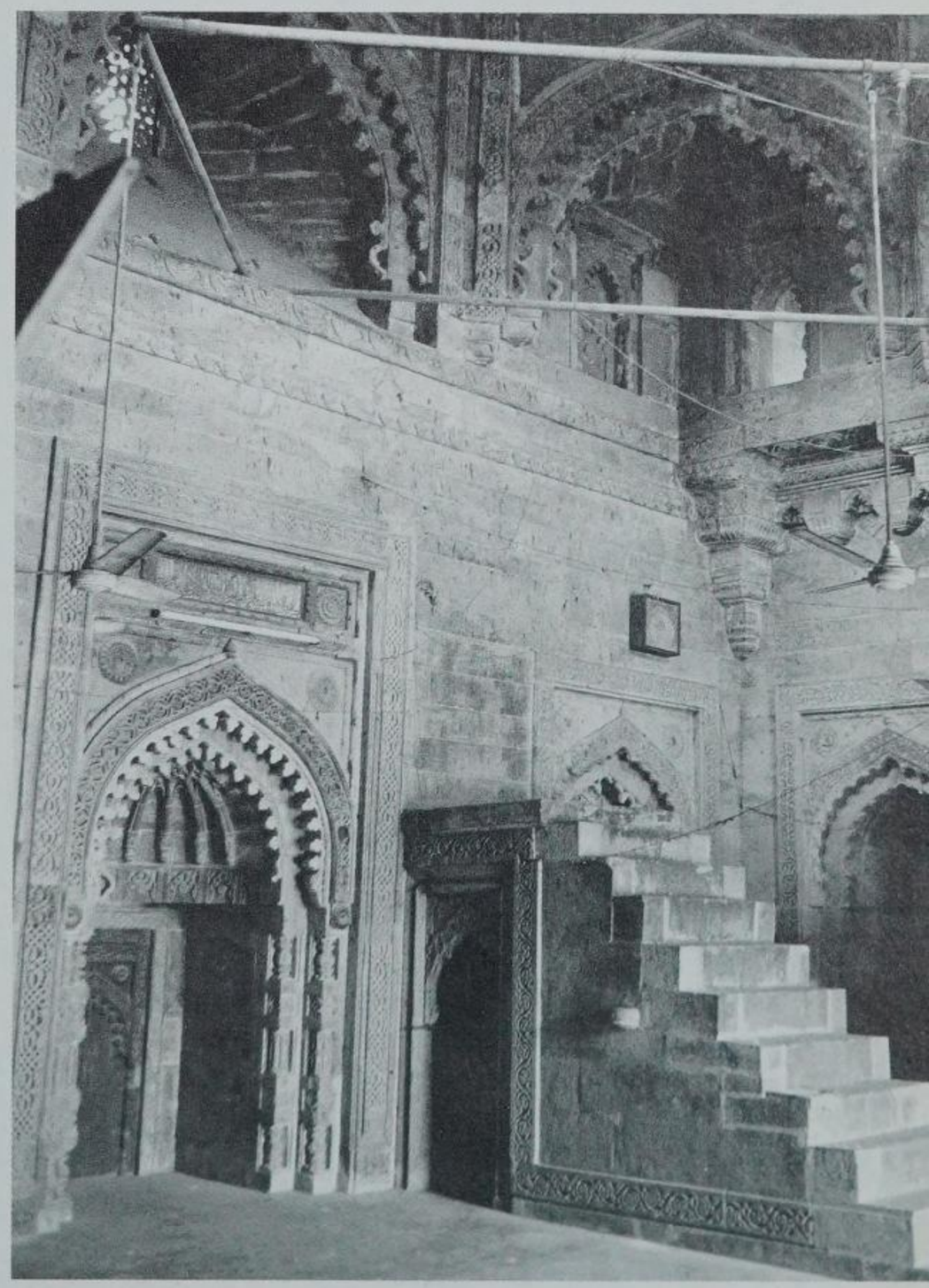


212 (b)

The precedent set by the great Atala Masjid was followed for the Jami- and Lal Darwaza Masjids, the former larger at least in its parts. Apart from the original work of Hindu masons, material from at least one Hindu shrine (bearing an inscription of 1168) was used in the construction of the Lal Darwaza work but it seems to have been in short supply for the Jami-masjid. While the former is entirely trabeated – even the central dome is borne on octagonally disposed beams – the Jami-masjid has vast barrel-vaulted chambers beyond narrow trabeated galleries on either side of the *qubba*. Neither mosque has subsidiary frontispieces and the great central pylons stand out in sharp contrast to the low wings. Integration suffers less on the smaller scale of the Lal Darwaza and is assisted by the appearance of the trabeated prayer hall within the *iwan* arch. On the larger scale of the Jami-masjid, the pylon's towering bulk shares the skyline only with the awkward external shells of the barrel vaults and the weighty walls masking the prayer hall: pierced by relatively small arched windows, it hardly provides an effective foil.



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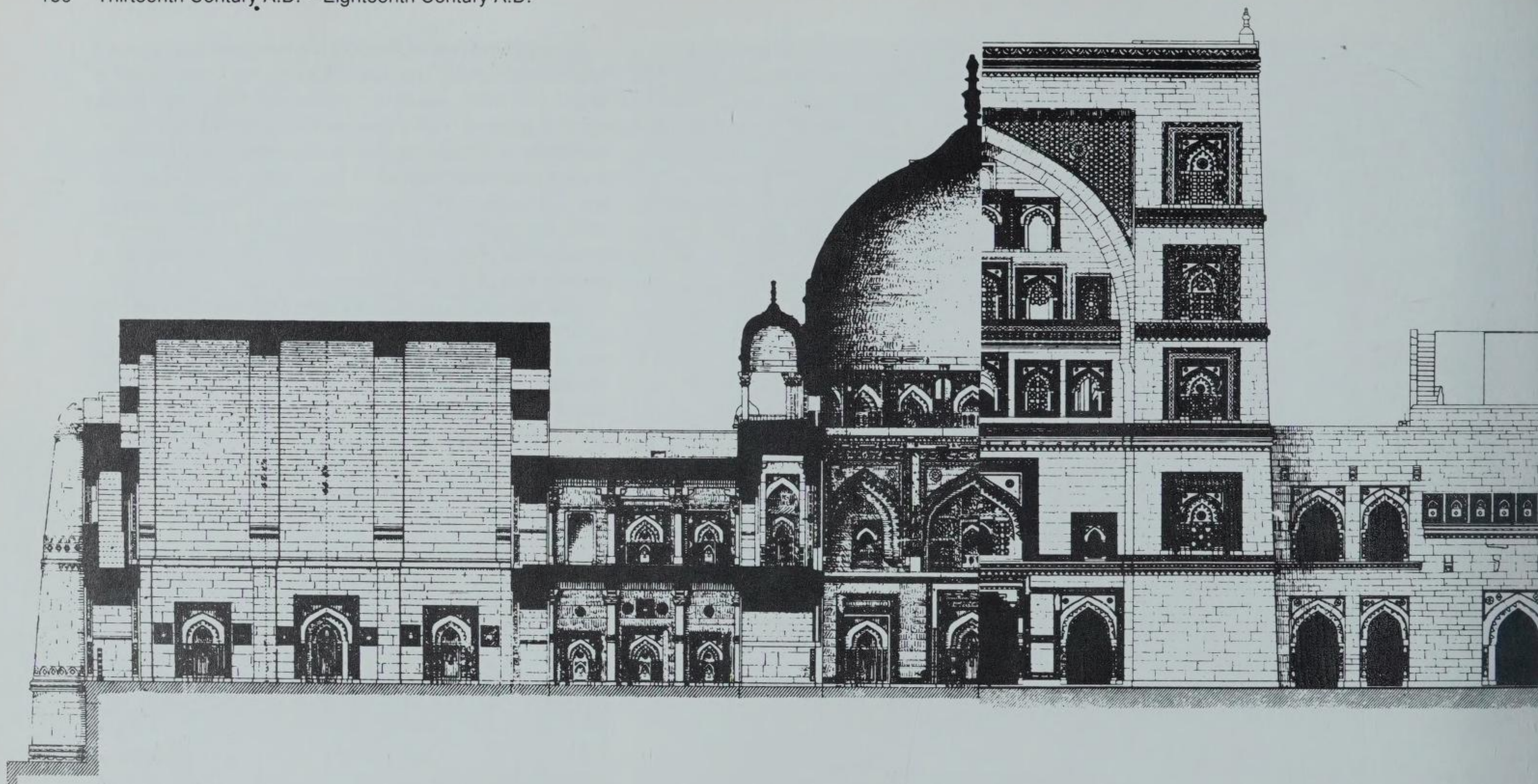


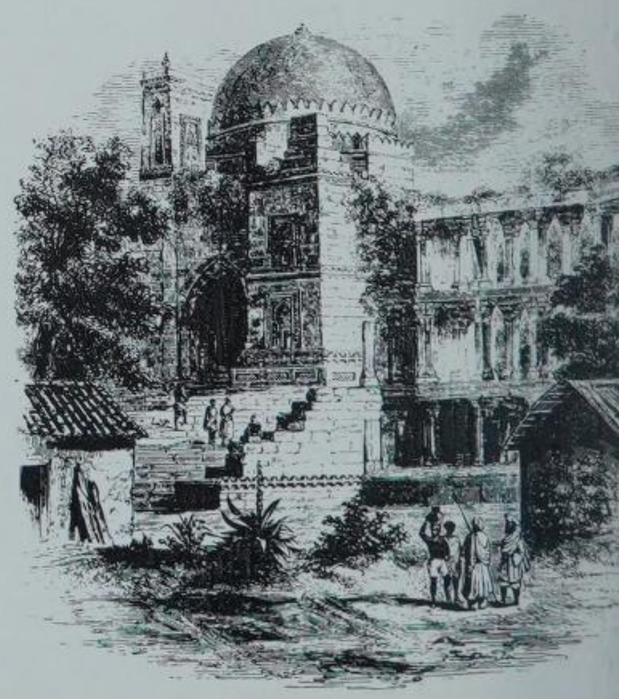
Malwa

The former Tughlaq governor of Malwa, Dilawar Khan Ghuri, who renounced allegiance to Delhi and founded his own dynasty in 1401, ruled from Dhar. His son, Hoshang Shah (1405-32) chose the virtually impregnable plateau of Mandu as the site for a new capital. This had been the Paramara seat and the sultan built his own palace complex on that of the Hindus around the Munja tank, extending their fortifications right around and across the eminence.[20]

Mandu's plateau is separated from the main Malwan tableland by a rift valley on three sides and it overlooks the Narmada to the south from a height of some 300 metres. Constructed with great difficulty because of the tortuous contours, a rubble and masonry wall skirts the scarped sides, including the virtually isolated secondary Bala Qila of Songarh to the west, and steps through the north-east ravine. Commanding the ascent on the slightly less precipitous north side are the Alamgir, Bhangi and Delhi Gates. A steep ramp sweeps up to the last, round its mighty bastion and through a guarded passage once vaulted over elegant transverse arches. As its name implies, the Alamgir Gate was rebuilt by Aurangzeb, with a strong barbican forcing a 90-degree turn. At the same time a secondary route was opened through the Kamani and Gadi Gates. Most of the gates punctuating the walls elsewhere around the perimeter are strengthened with bastions and barbicans and the ramp is turned no less than three times within the mass of the Tarapura Darwaza.

Despite the plateau's irregular contours, a fine ceremonial way led from the Delhi Gate, past the walled royal enclosure, to the cult centre and then on to a second royal enclosure above the southern precipices. The crossing of a secondary axis at the cult centre defined the sites of the Jami-masjid, with the ruler's tomb beyond the *qibla*, and the Ashrafi Mahal. The latter, one of India's first formally planned *madrasas*, was converted into a mausoleum by Mahmud I Khalji (died1469) who displaced the Ghuris in 1436.

Like his predecessors, Dilawar Khan had endowed Dhar with mosques largely assembled from materials pillaged from Hindu temples. At Mandu however, he and his followers were not content with improvisation. Artisans from Delhi, under-employed by the successors of Firoz Shah, were available and Tughlaqian influence is apparent in the series of works which opens with the Dilawar Khan and Malik

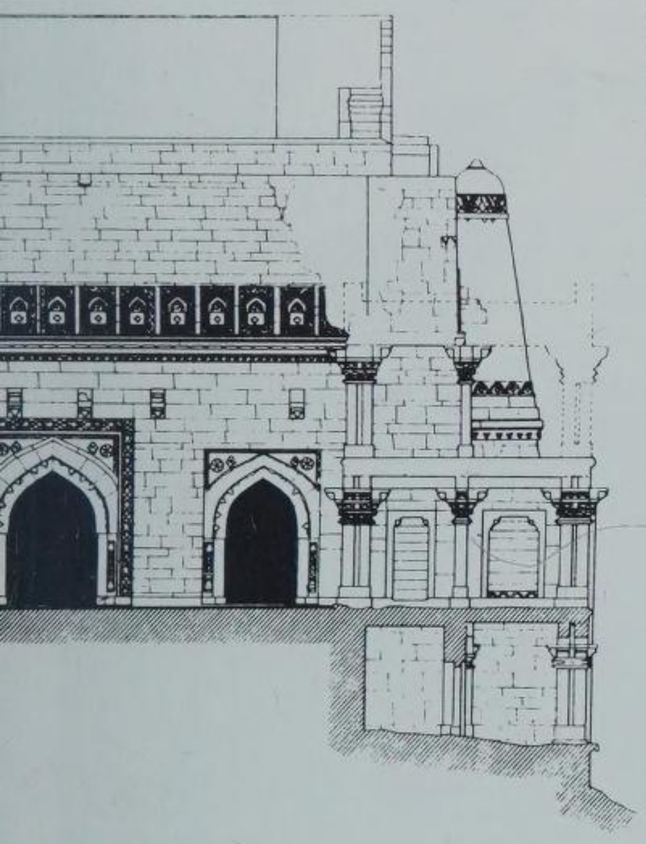


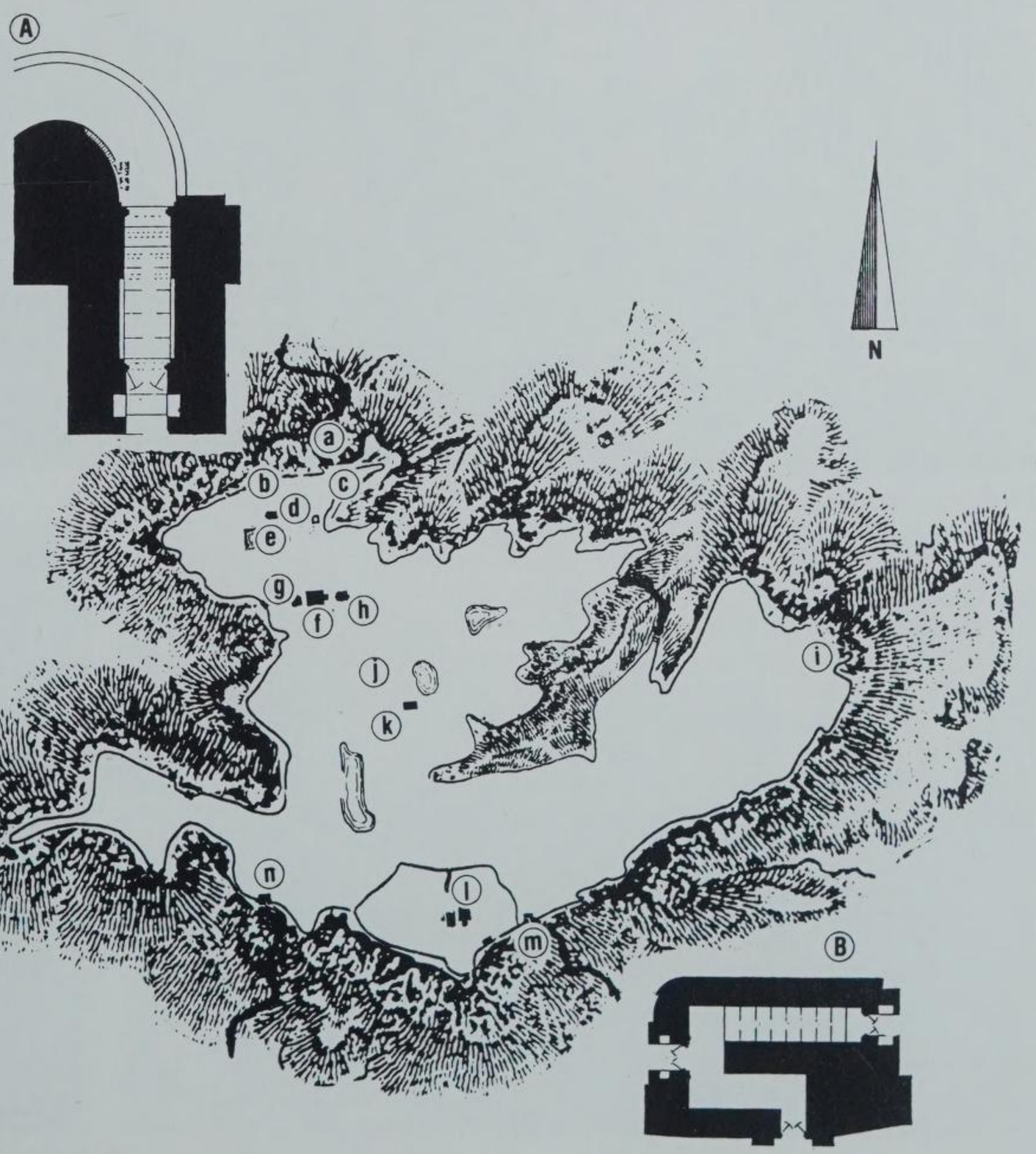
213. Jaunpur, Jami-masjid: **(a)** part-section, part-elevation; **(b)** southern entrance portal.

Mughis mosques. Prayer halls are of the open hypostyle type, common in neighbouring Gujarat if rare in the Sultanate, but domed turrets mark the corners, as in Tilangani's works. Though some decorative play is made with arches springing from piers, in general the austerity of Firozian forms is preferred to Gujarati floridity.

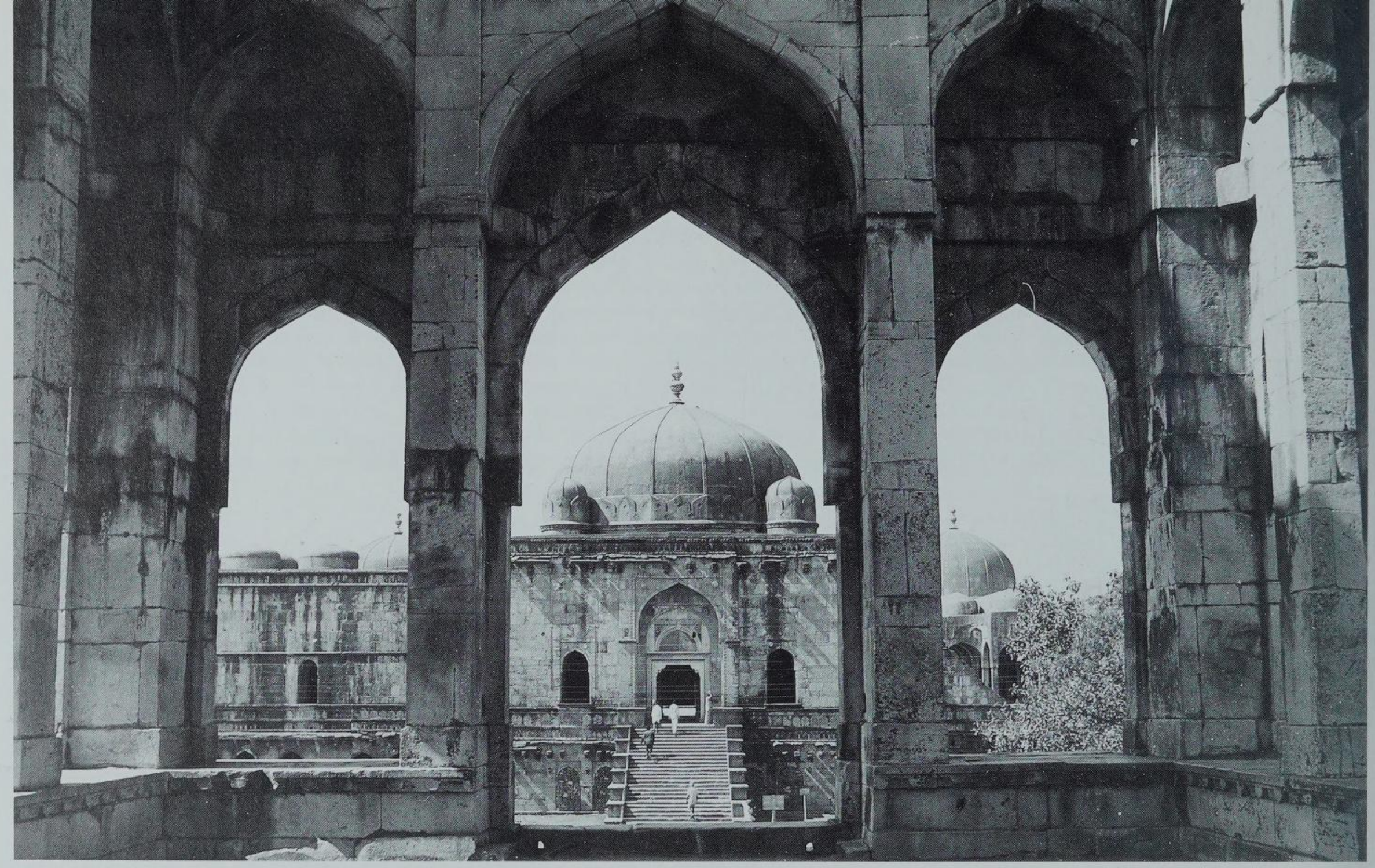
The Ghuri's culminating achievement was the Jami-masjid. The prayer hall consists of a series of identical domed bays, interrupted before the *qibla* by three nine-bay *qubbas*, but no *iwan* or frontispiece. The domed arcades extend around the court to either side of a monumental entrance pavilion in the centre of the east range. The domed turrets and piers are those of Firozian Delhi but the arches retain the ogee profile which we shall see favoured in the Deccan. Decorative play is still made with flying arches, after the non-structural principle of the native tradition but with Firozian restraint in practice. Except for a modest amount of glazed tiling, for which the Malwans had a special facility, the building relies for its effect on simple repetition and the play of light over the beautiful red sandstone, sharply delineating the elegant arches with their sturdy verticals against the depth of the void and the deep shadow-line thrown by the *chadya*. Inside, restraint is relinquished solely in the *chattri* of the *minbar* and the several *mihrabs*. Etched with the spear-head valance which was no less popular in Mandu then in Delhi, these are enriched with stone in contrasting colours.

The domes of the Jami-masjid's prayer hall, echoing that of the entrance pavilion, are in turn echoed by Hoshang Shah's tomb beyond the *qibla*. Amongst the earliest Muslim buildings in India to be entirely sheathed in white marble, this weighty *qubba* is relieved only by *iwan* arches. It set the formal precedent for the tombs built under later rulers by the





214. Mandu, fort plan (1:30000): **(a)** Alamgir Gate; **(b and inset A)** Delhi Gate; **(c)** Gadi Gate; **(d)** Dilawar Khan Masjid; **(e)** Munja tank with royal palace complex; **(f)** Jami-masjid; **(g)** tomb of Hoshang Shah; **(h)** Ashrafi Mahal; **(i)** Jahangirpur Gate; **(j)** tomb of Darya Khan; **(k)** Malik Mughis Masjid; **(l)** southern palace compound and Rewa Kund; **(m)** Baghwania Gate; **(n and inset B)** Tarapura Gate.



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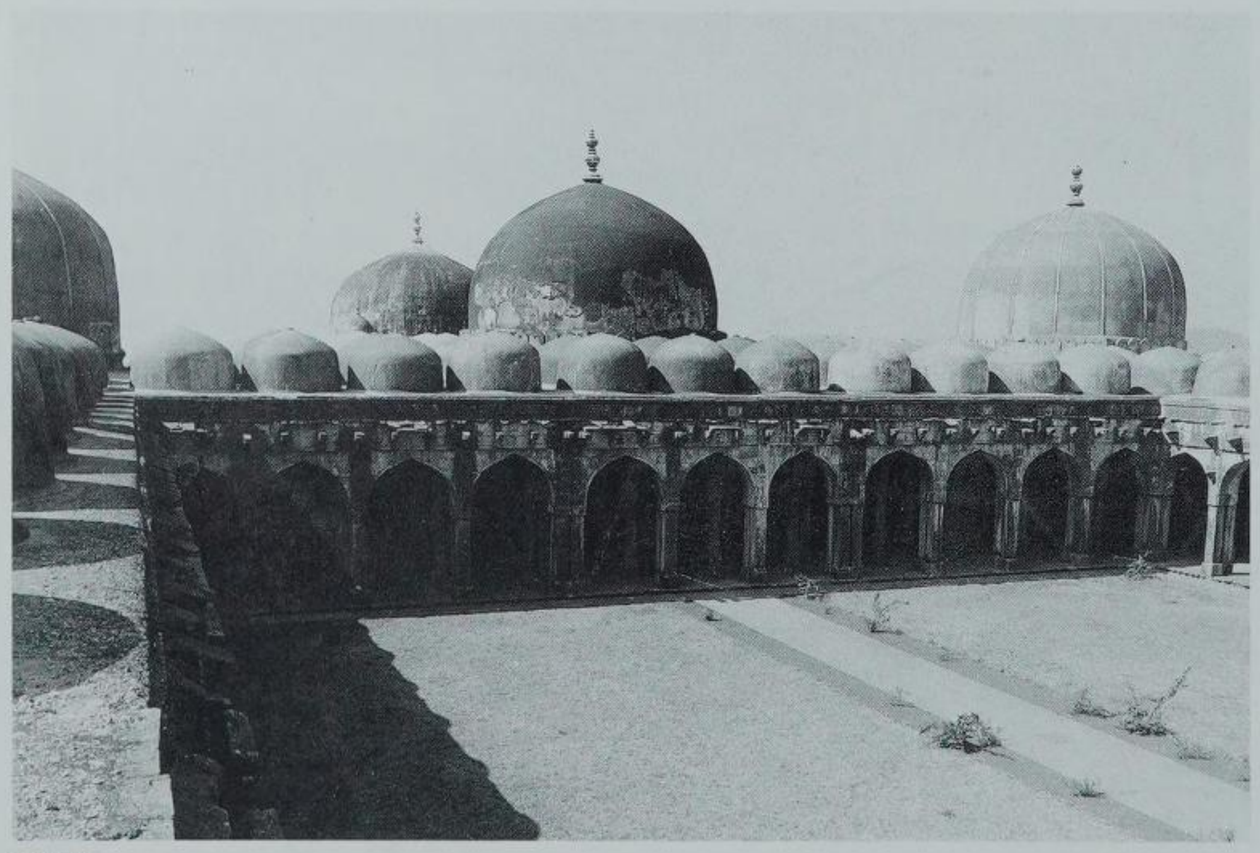

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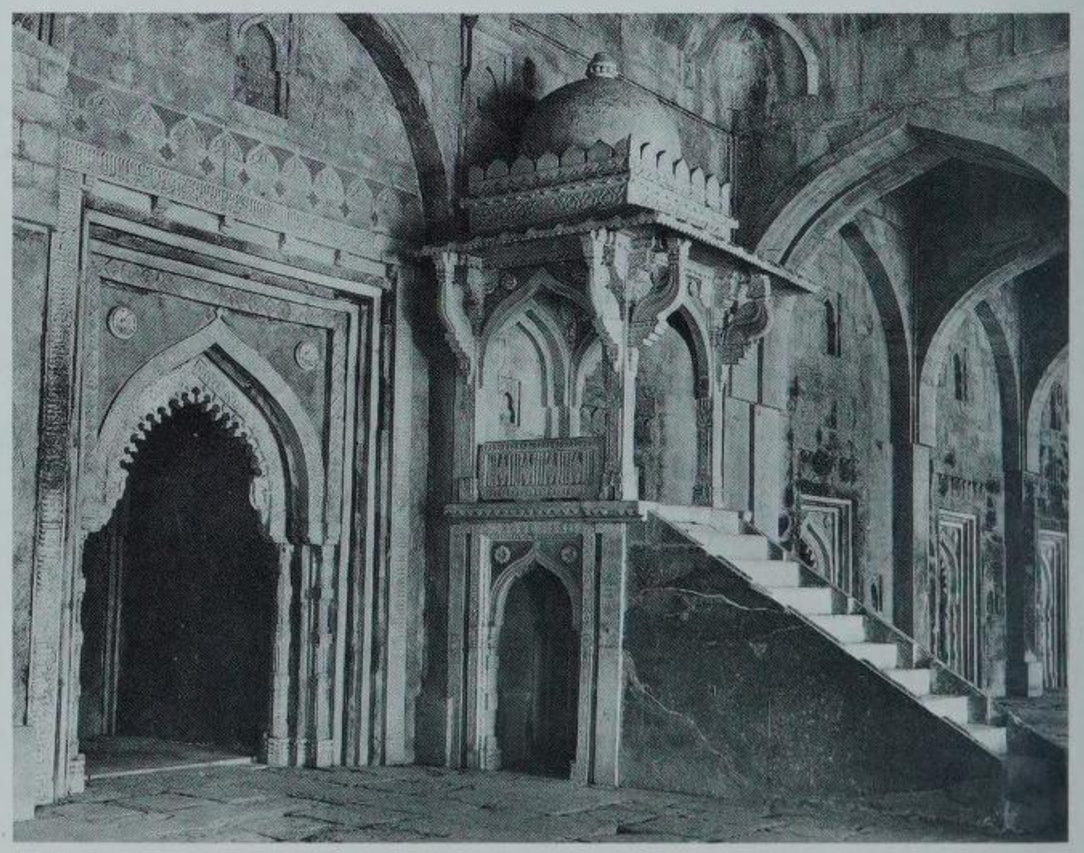

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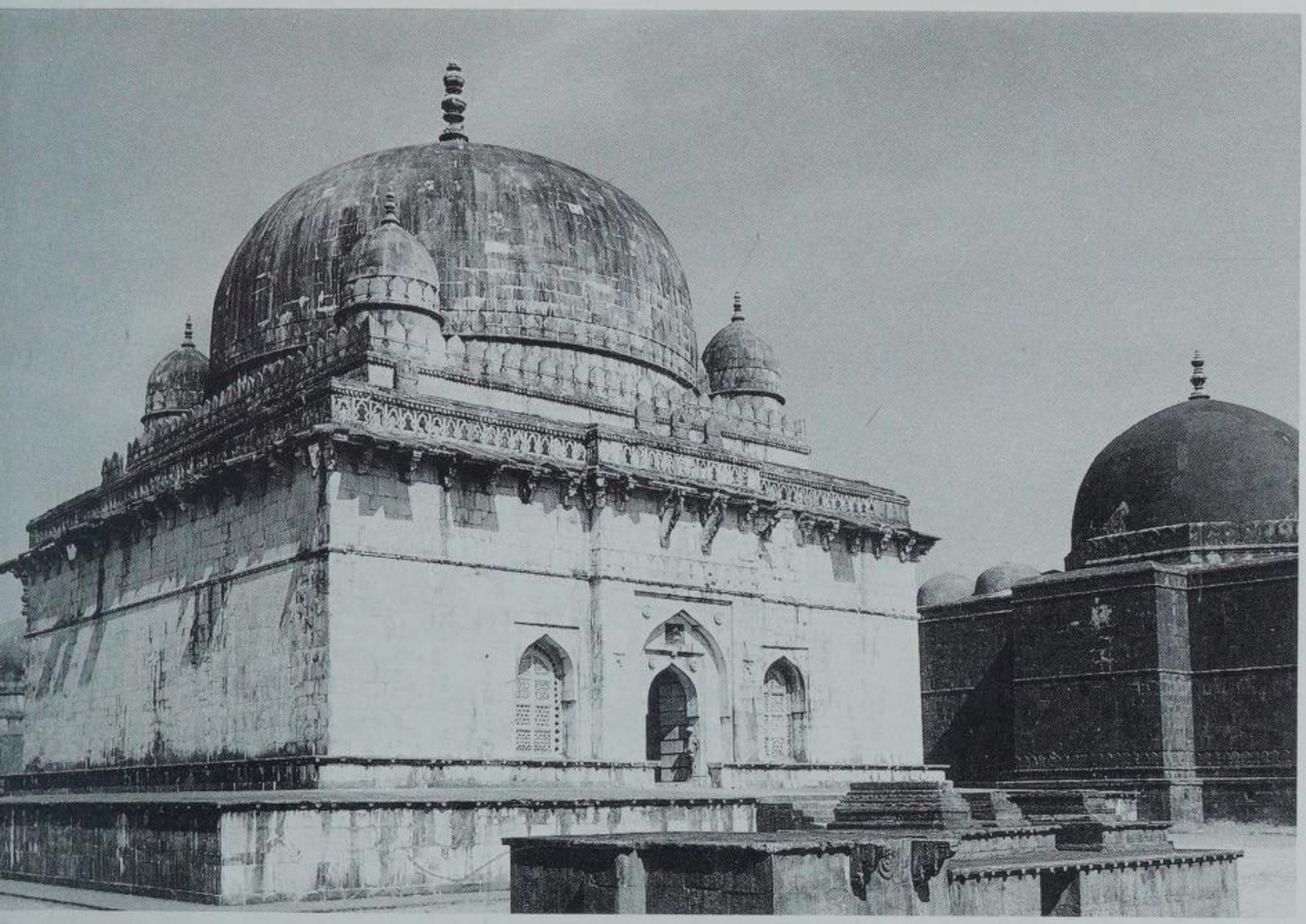

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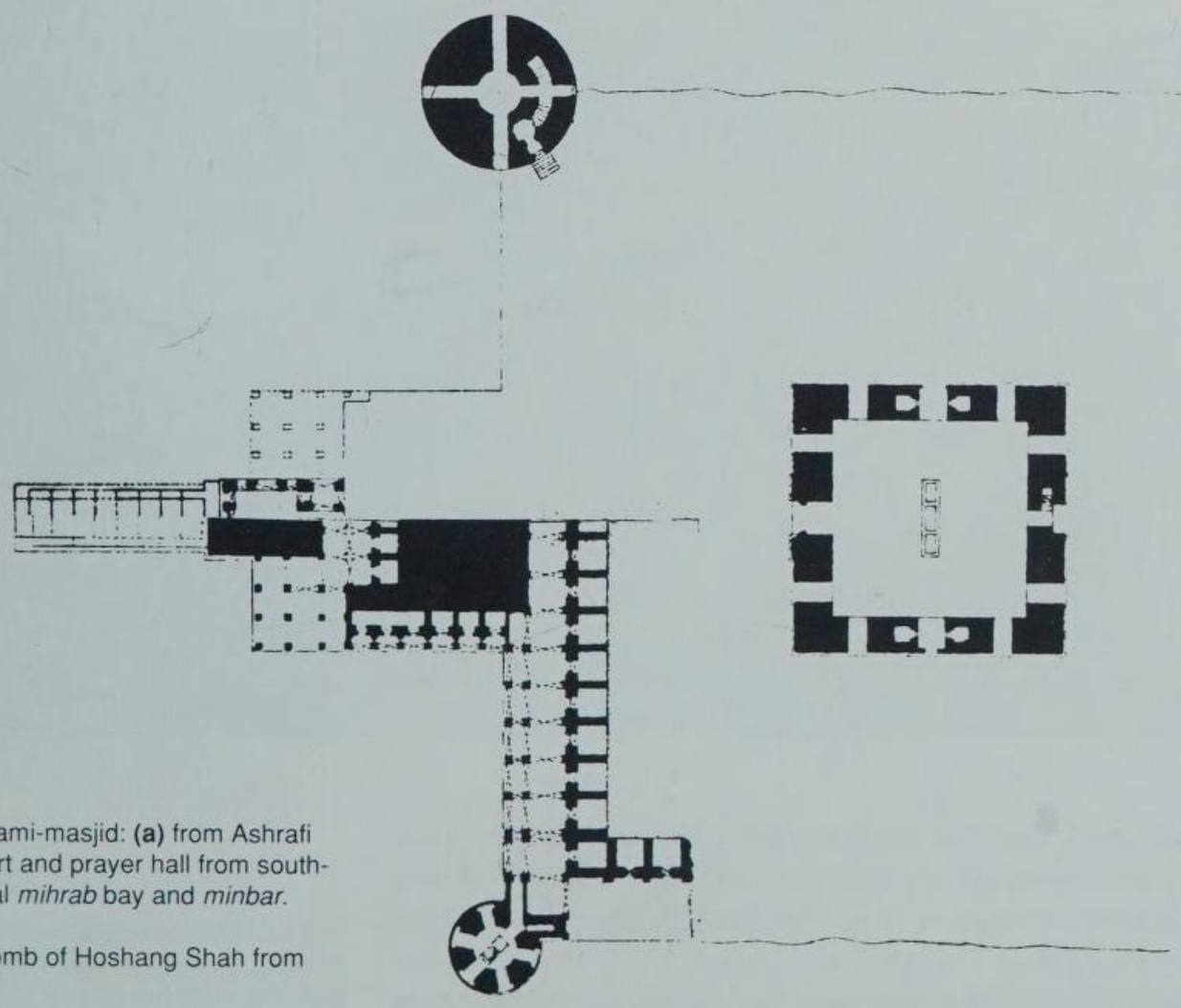


215. Mandu, Jami-masjid: **(a)** from Ashrafi Mahal; **(b)** court and prayer hall from south-east; **(c)** central *mihrab* bay and *minbar*.

216. Mandu, tomb of Hoshang Shah from south-west.

217. Mandu, Ashrafi Mahal: **(a)** plan, lower level quartered right; **(b)** from Jami-masjid.

217 (a)

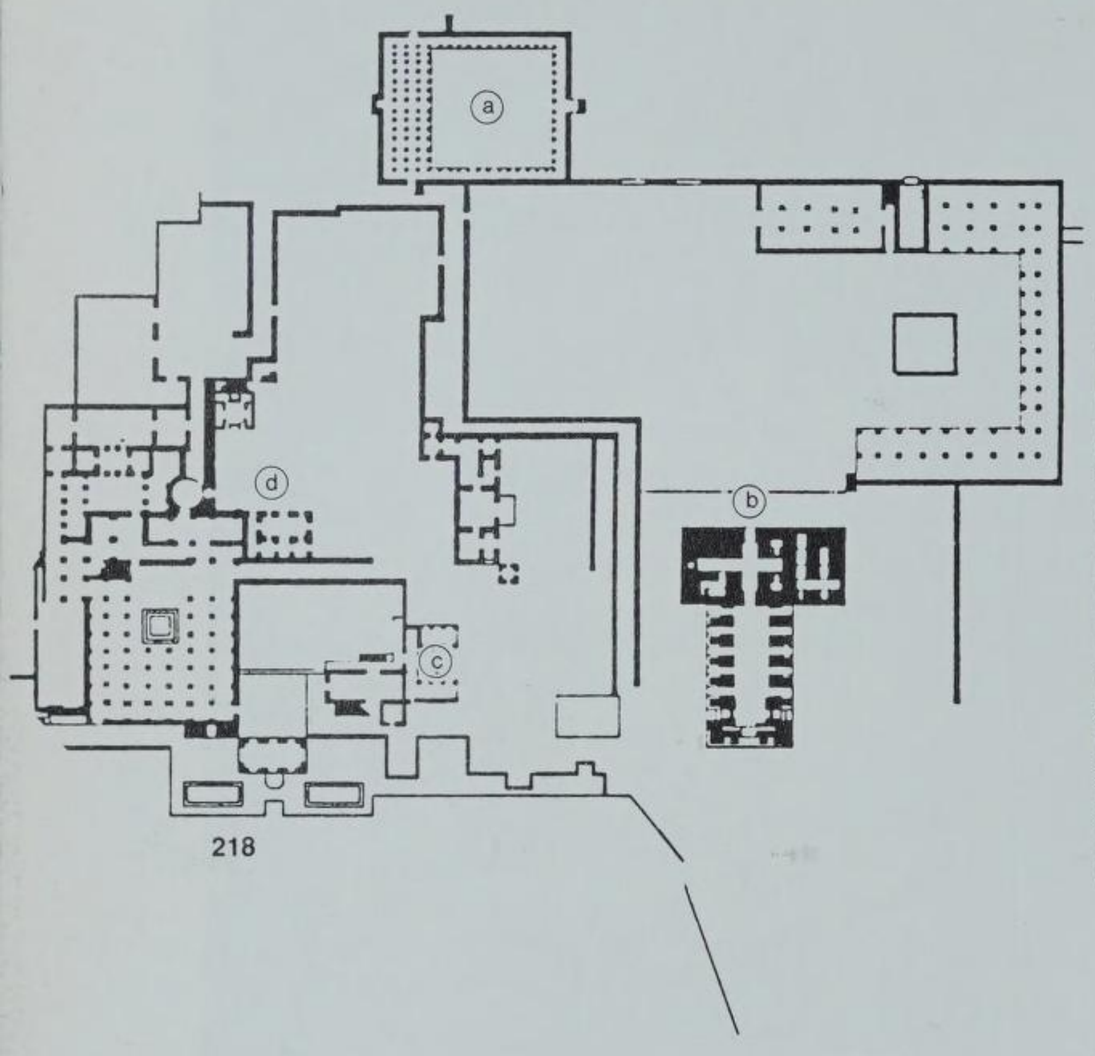
217 (b)

nobility – and by the Faruqis in neighbouring Khandesh, though they tended to favour richer relief and the marked stilting of domes over taller, octagonal drums.

Of the extraordinary but influential Ashrafi Mahal, to the Jami-masjid's east, little remains but the great base. The open court of the original *madrasa*, once surrounded by cells on several levels, seems to have been filled to provide the foundations for the tomb of Mahmud I. Mahmud also enlarged one of the original corner pavilions to provide the base for a seven-storey tower of victory, emulating the Qutb Minar, built to commemorate triumph over Chittor in 1443. Mahmud's work was ill-founded and in ruins by the late-17th century. However, the insertion of a square block, containing large volumes, into a square court surrounded with living accommodation, was to provide an important precedent for secular architecture in India.

The remaining elements of Hoshang Shah's palace complex are amongst the earliest – and most impressive – of their type in India. Up and down the Subcontinent the ruins of citadels with traces of once palatial apartments bear testimony to the passion of the Indian ruler for change. Dhar and Mandu of Malwa apart, the most obvious Muslim examples already encountered are the Sultanate capitals at Delhi and Daulatabad, Ahmadabad and Champanir of Gujarat, Gaur and Pandua of Bengal. This passion for change – and war – has meant that invariably little remains of palaces built before the Muslims achieved prominence – indeed until the 14th century – and comprehension of secular developments is very far from complete. Yet across the gaps left by change and decay one or other of the ancient native and imported types – the *prasada*, the *apadana* or *talar*, the *iwan* – appears always to predominate. And, as Kautilya requires, there are invariably three clearly distinguishable zones: the ceremonial with facilities for public audience, the king's private apartments and the *zenana*.

At Mandu all the elements of the palace complex are walled and arcaded, rather than trabeated, though indigenous forms – even the earliest indigenous palace type – are not forgotten. In Hoshang Shah's *daulat khana*, an important element seems to have been a multi-columned hall, far from



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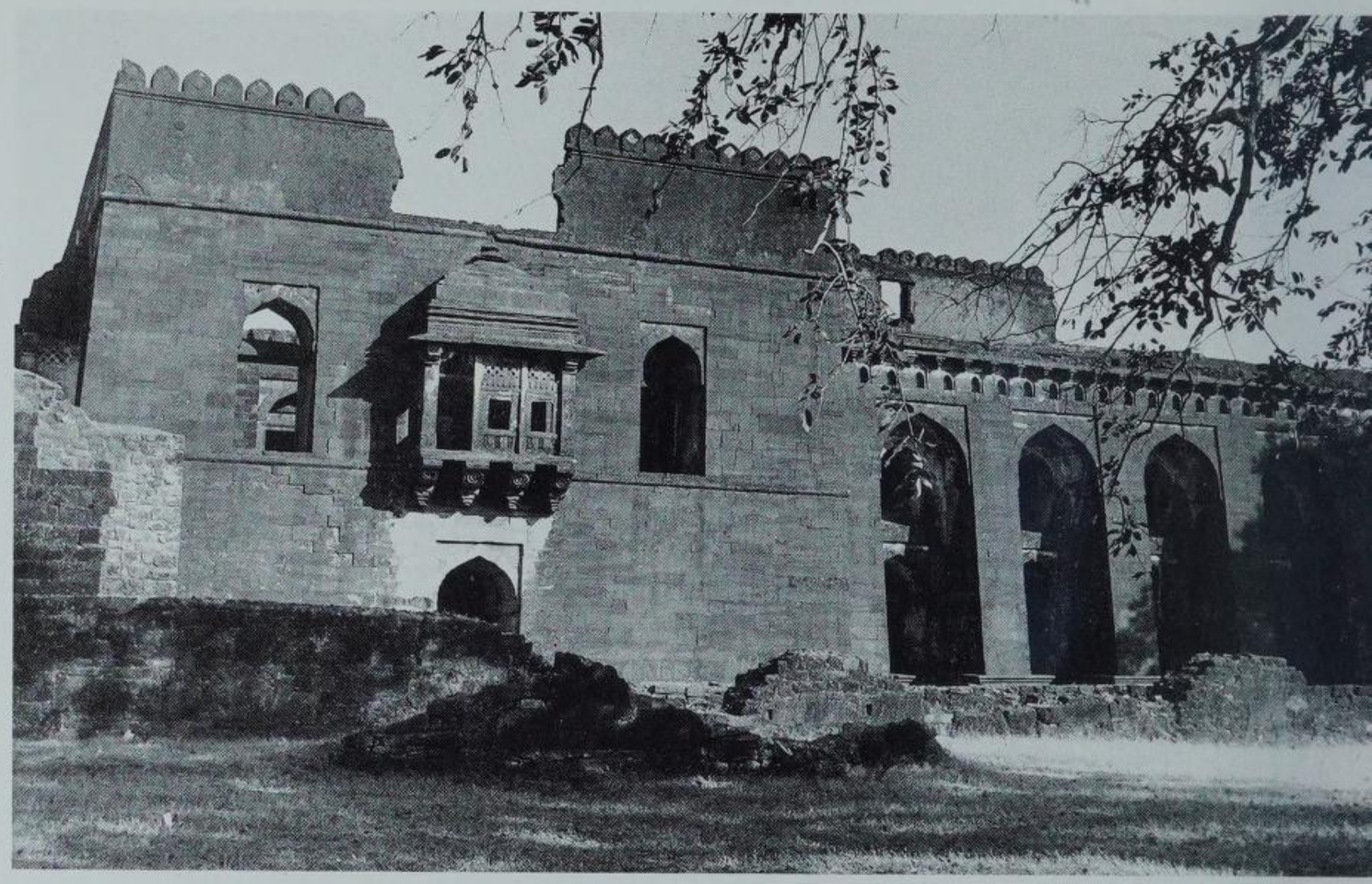

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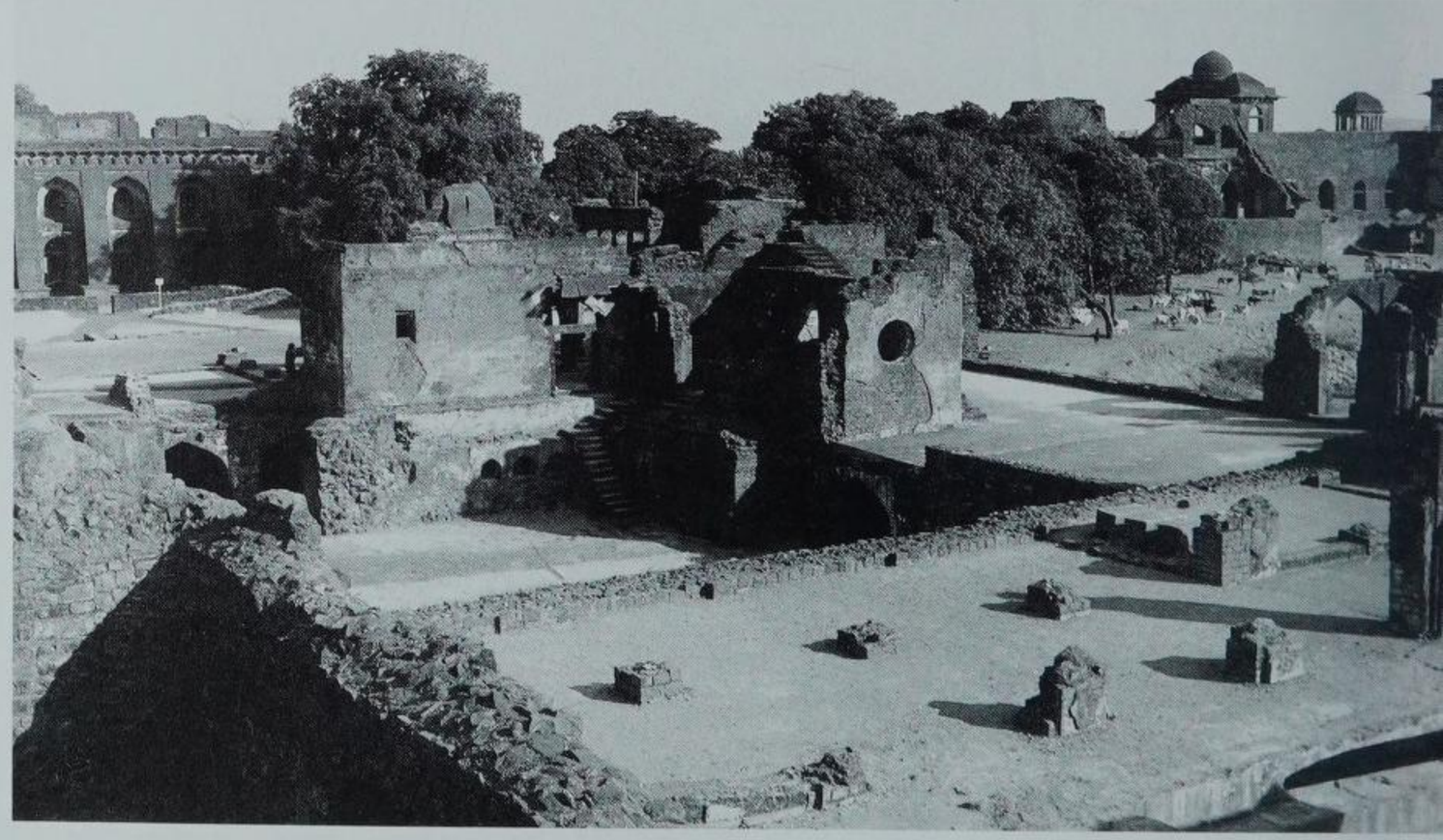
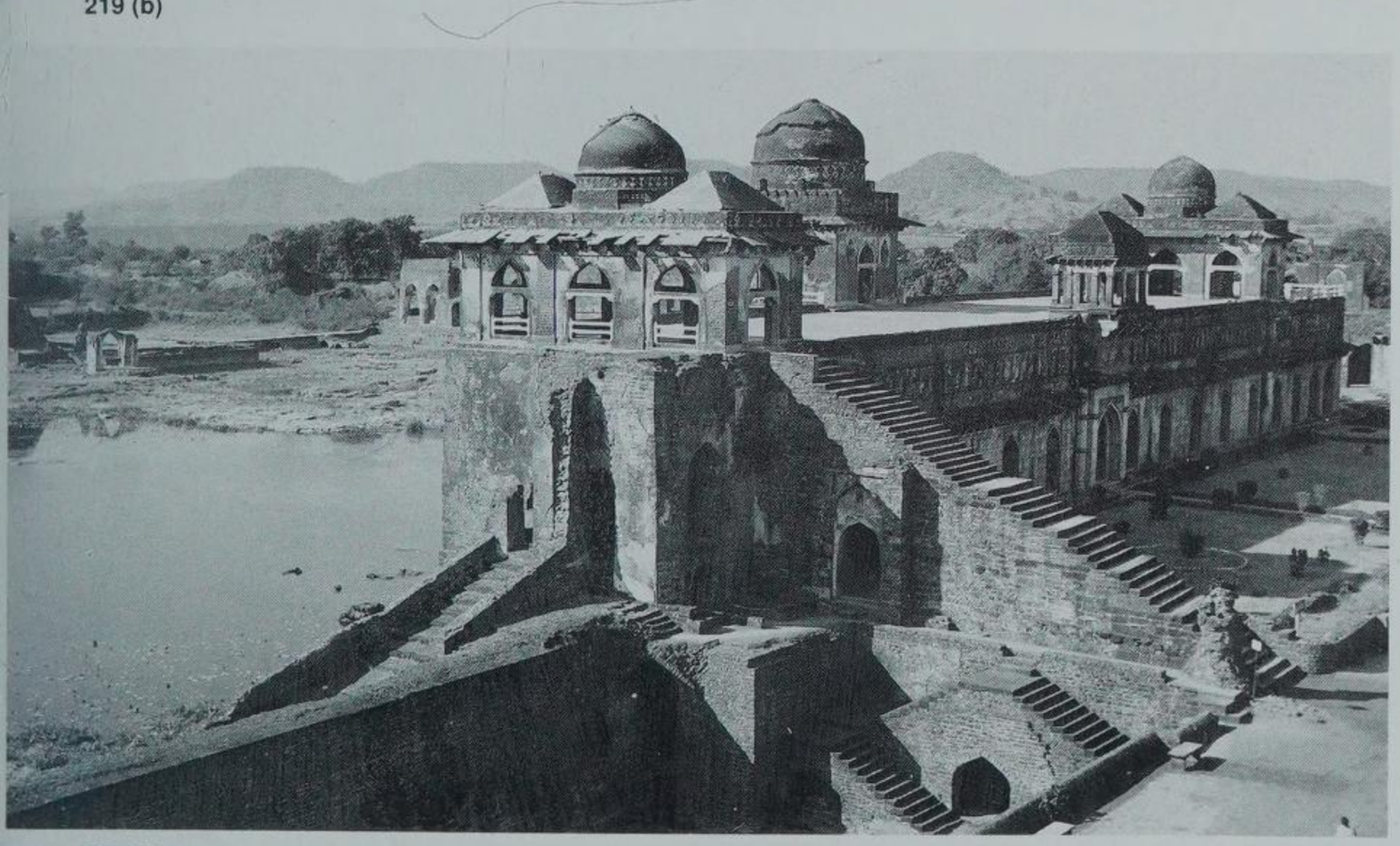


219 (c)

unfamiliar in India. This apart however, in contrast to Kotla Firoz Shah – with its central-Asian antecedents – most of the complex seems ultimately to descend from the Parthian tradition of courts, *iwans* and irregularly disposed chambers. This, of course, was introduced by the early rulers of Sirkap and it is hardly surprising to find it again across the gap of 1400 years – the *talars* of the Delhi sultans notwithstanding – especially as it was well adapted to the specific conditions of India. Generous courts, screened and canopied terraces and myriad small rooms respond to a climate in which much of life may seek the open air but also want cool, dark and varied retreat from sun and rain. Moreover the Parthian tradition was part of the inheritance of the Kushanas: it is surely likely to have been furthered by them in the provision

218. Mandu, royal palace complex, plan (1:2000): **(a)** Dilawar Khan Masjid; **(b)** Hindola Mahal and court of public audience; **(c)** Champa Baoli; **(d)** *daulat khana* court with private audience *baradari* south-west; **(e)** Jahaz Mahal.

219 (b)



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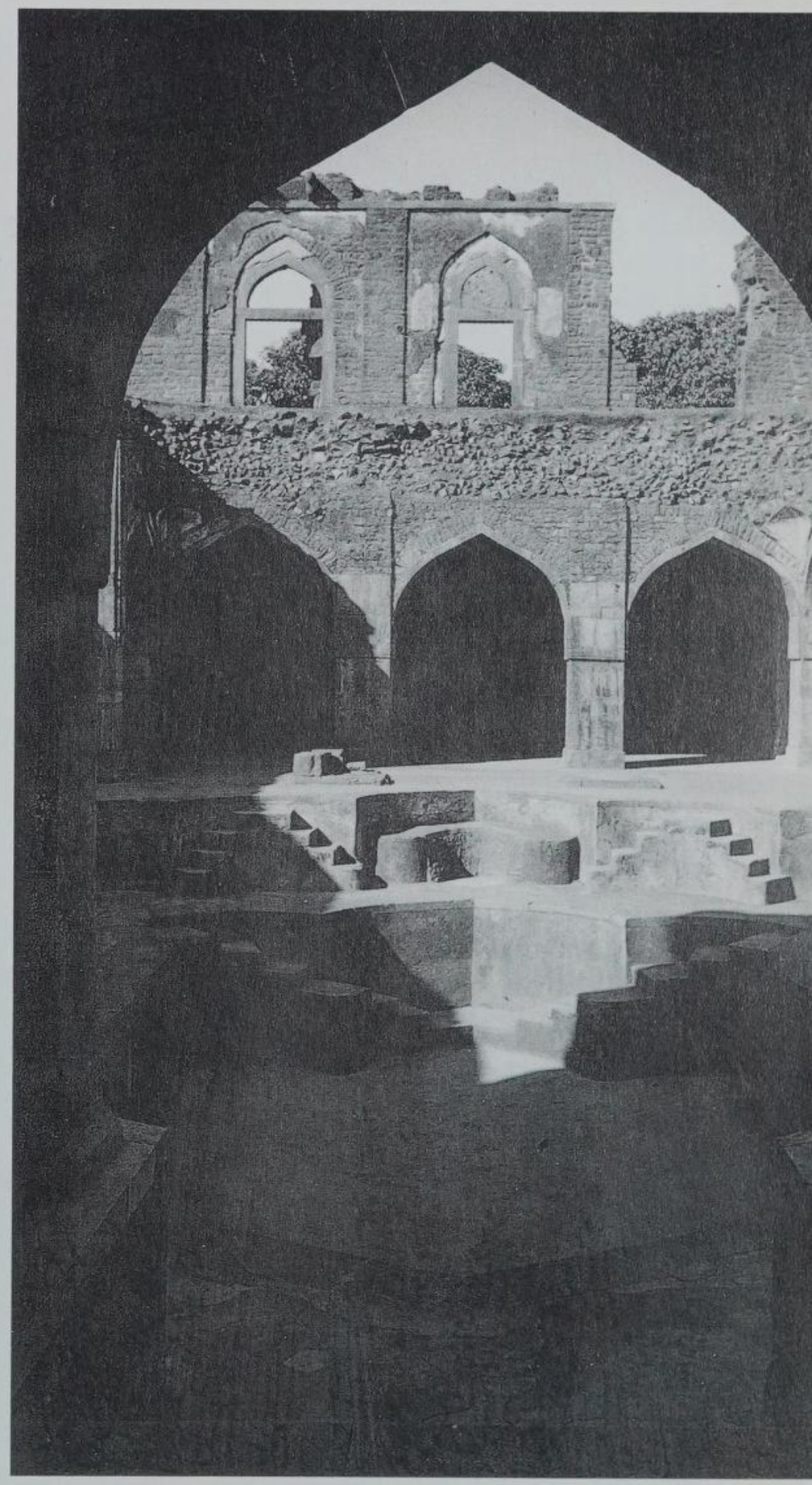


219 (e)

219. Mandu, royal palace complex: **(a–b)** Hindola Mahal from west and main hall interior; **(c)** *daulat khana* from north-west; **(d–e)** Jahaz Mahal, from south-east and fountain court.

of domestic accommodation on a grand scale and, as we know, the imperial achievements of the Kushanas were an inspiration to the most ambitious in northern India for centuries.

Hoshang Shah's ceremonial zone is dominated by a great audience hall, the 'Hindola Mahal'. This vast room and the two storey block perpendicular to it – which may be later – have strongly battered walls, those of the former punctuated with colossal arcades framing windows and doors, those of the later relieved only by a string course, balconies and rather haphazard fenestration. Recalling precedents stretching back to the Sassanians, the great room within is dominated by huge transverse ogee arches which once carried a timber beamed roof. It is overlooked by a gallery on

the aisled upper floor of the wing. The lower floor has a cruciform hall with chambers in the corners.

Contrary to its fanciful association with a swing (*hindola*) the audience hall is uncharacteristically massive for an Indian palace building – though there is a similar one at Warangal – and indeed, the cyclopean structure may have been designed to bear several more storeys. More characteristic are the *zenanas*, summer palaces and pavilions of later rulers: the Jahaz, Lal, Chappan, Baz Bahadur and Rupmati
33(b) Mahals. When its revetment of tiles was complete the Jahaz Mahal in particular, the long slender arcaded *zenana* of Mahmud I or his successor Ghiyas-ud-din, must have been a gorgeous confection reflected in the waters of the tank to either side – hence its name, 'Ship Palace'. The indigenous *prasada* tradition is most persuasively recalled here in the kiosk-crowned central pavilion, with its airy balconies, projecting into the Munja tank.

Far off in the north of Malwa, Chanderi was the most notable of several centres of provincial development under the Malwan rulers. It is dominated by the Kirtti Durga whose origins go back at least to the Paramaras. Six kilometres of wall ring the flat eminence in the Vindyachal range, 90 metres above the town. These ramparts are pre-Muslim in origin but the great bastions of the Bala Qila, which give the impression of immense strength even in ruin, were rebuilt under the Muslims. The most significant buildings in the town and its suburbs date, too, from the period of the Khalji sultans of Malwa.

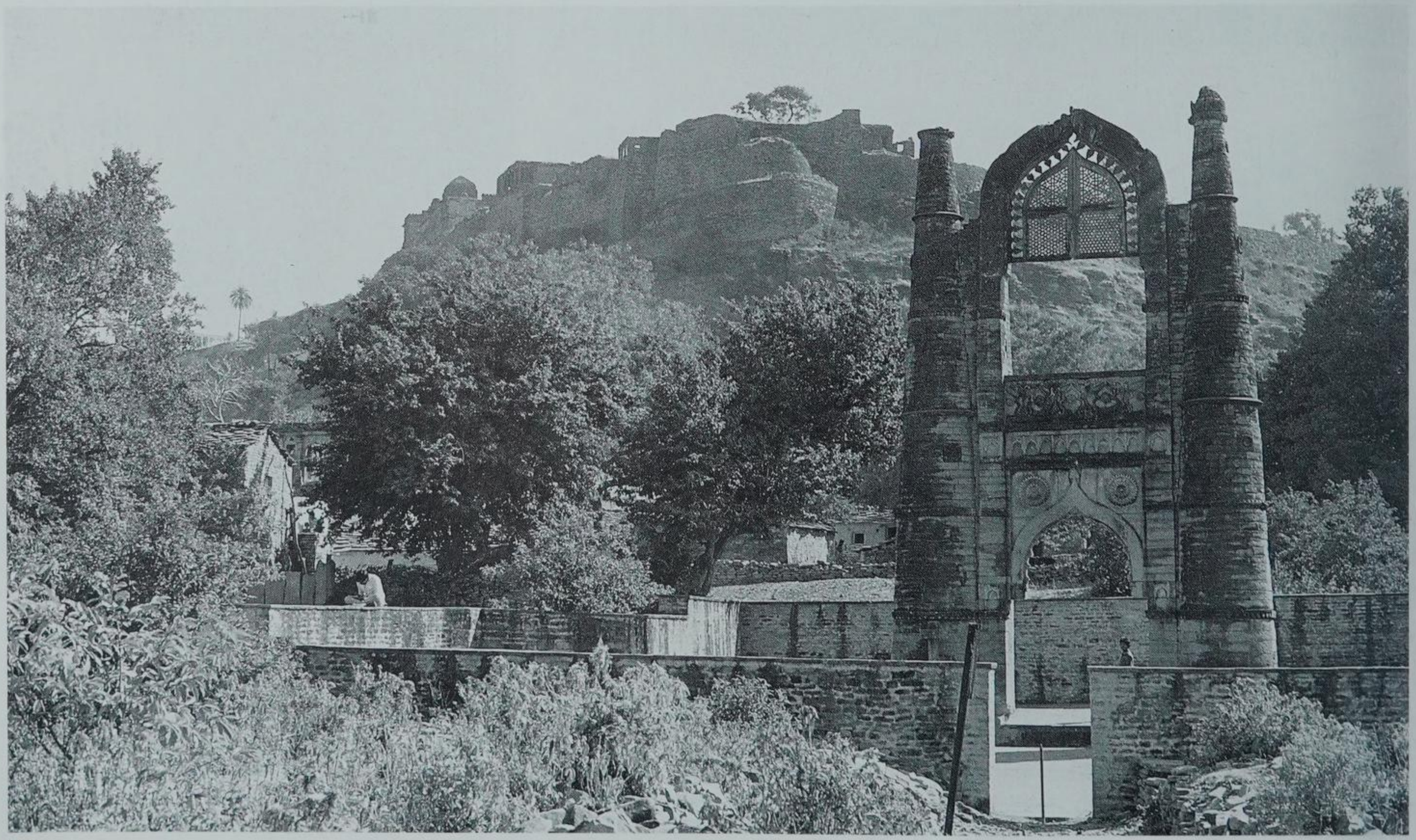
The florid style of Gujarat seems to have been more to the taste of provincial Chanderi than it was in the capital. The Jami-masjid is outstanding for its intricate ornament and the serpentine brackets supporting a bold *chadya* above elegant ogee arches. The influence of Tughlaqian Delhi is equally apparent in the city's unique free-standing palace portals which recall the indigenous *torana* in ogee arches springing from *minaret*-like piers – the most prominent example is that of the so-called Badal Mahal.

The best-preserved palace in the area is the multi-storey

220. Chanderi, Kirtti Durga with Badal Mahal, foreground.

221. Chanderi, Jami-masjid: **(a)** entrance from south; **(b)** court from south-east.

222. Chanderi, Kushak Mahal: **(a)** from south-west; **(b)** hall crossing.



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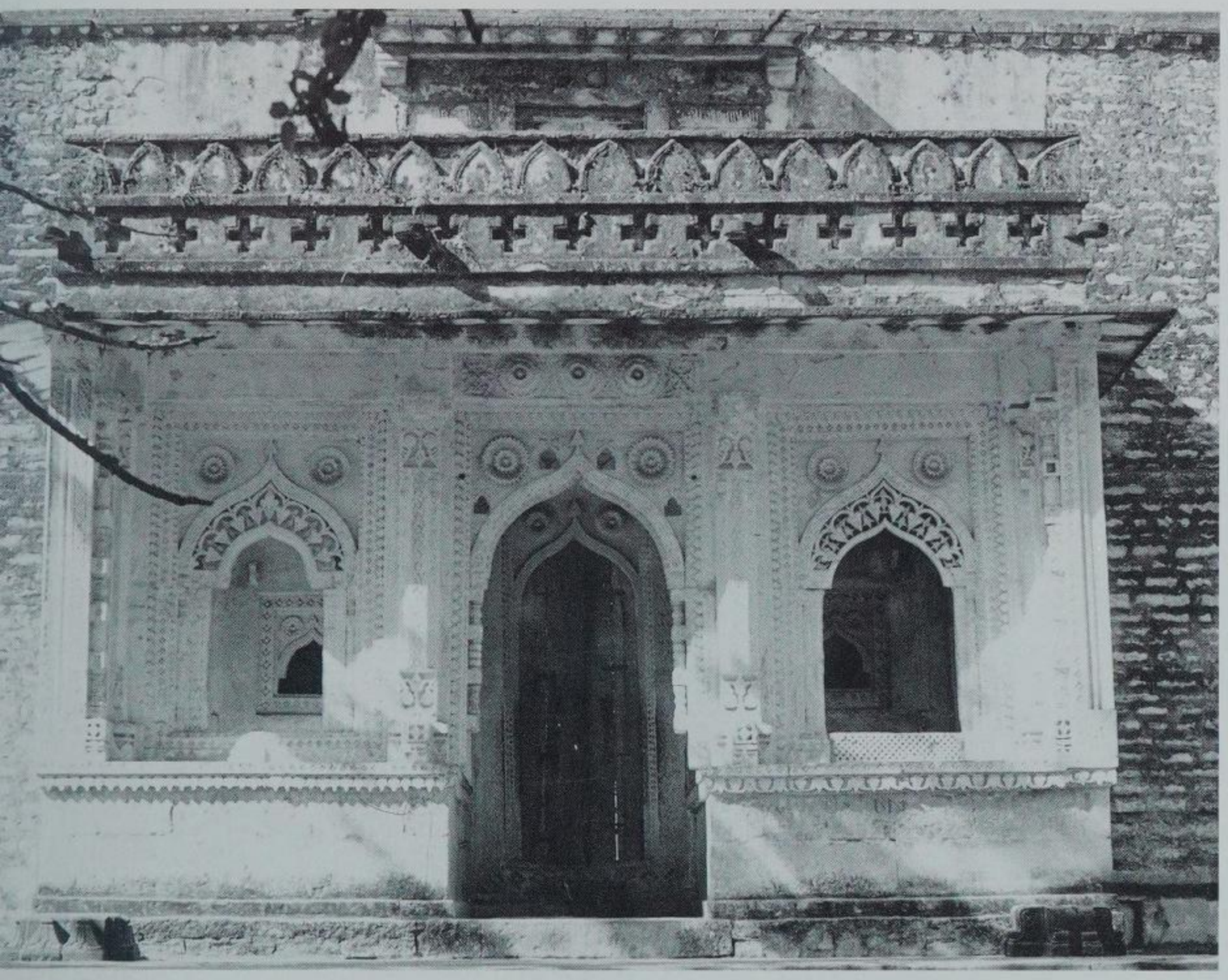

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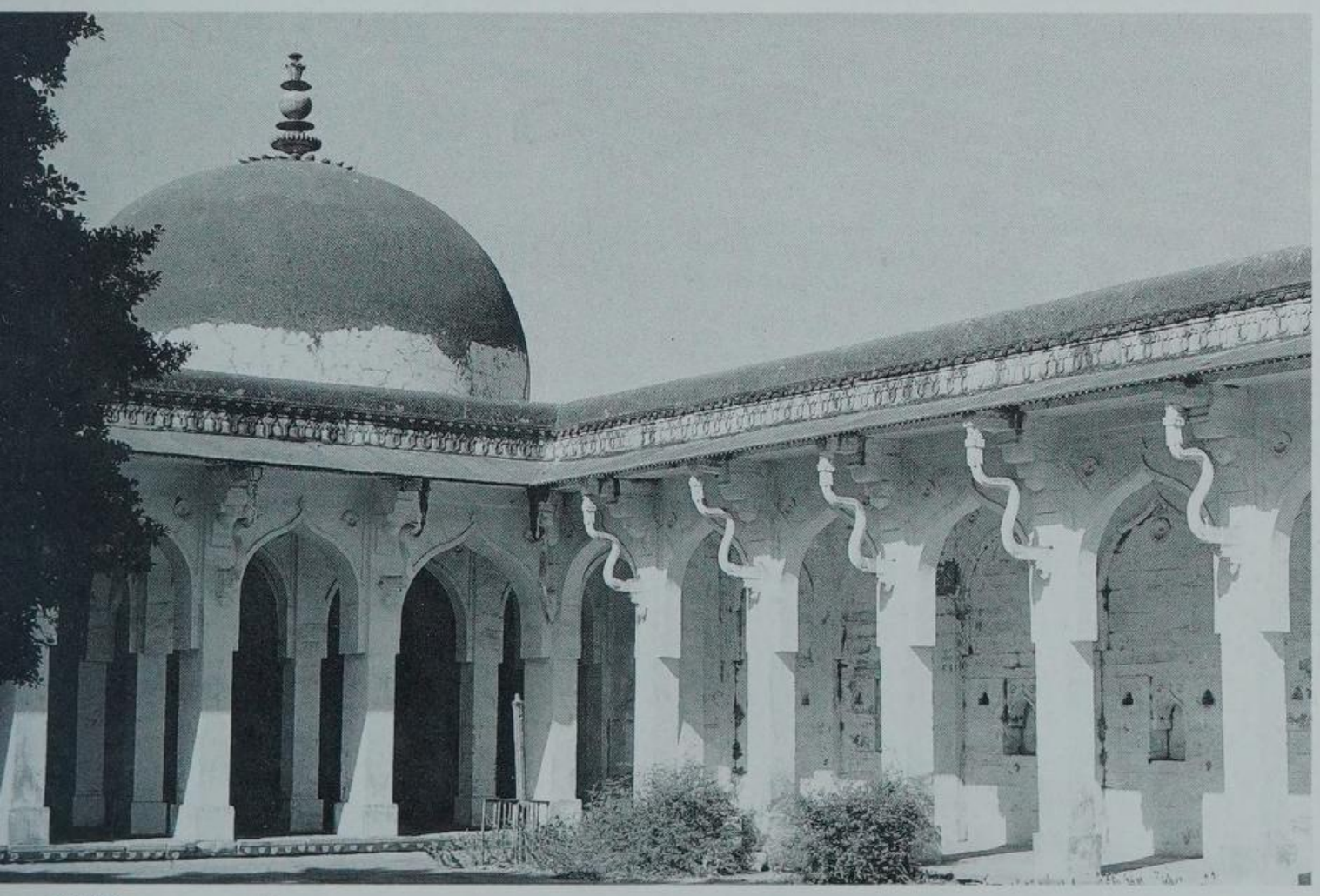


221 (b)

222 (a)

222 (b)

Kushak Mahal, built in nearby Fatehbad by a minister of a late 15th century Malwan sultan. Square, it consists of four *prasada*-like blocks separated by cruciform halls roofed over virile transverse arches with bridges linking the kiosked terraces at the fourth level of each block. This building was to prove particularly influential.[21]

The Deccan: Gulbarga and Bidar

The Delhi artisans transported to Daulatabad took the Sultanate style with them to the north-western Deccan but trade had long exposed the region to direct contact with western Asia. With trade came skilled immigrants and after the Persian adventurer Zafar Khan had carved out the kingdom of Gulbarga in 1347, his followers found talent from their ancestral homeland ready to hand when they felt secure enough to turn their attention to the embellishment of their capital. Zafar Khan himself, as Ala-ud-din Bahaman I (1347-1358), first ruled from Daulatabad, then moved the capital to Gulbarga.

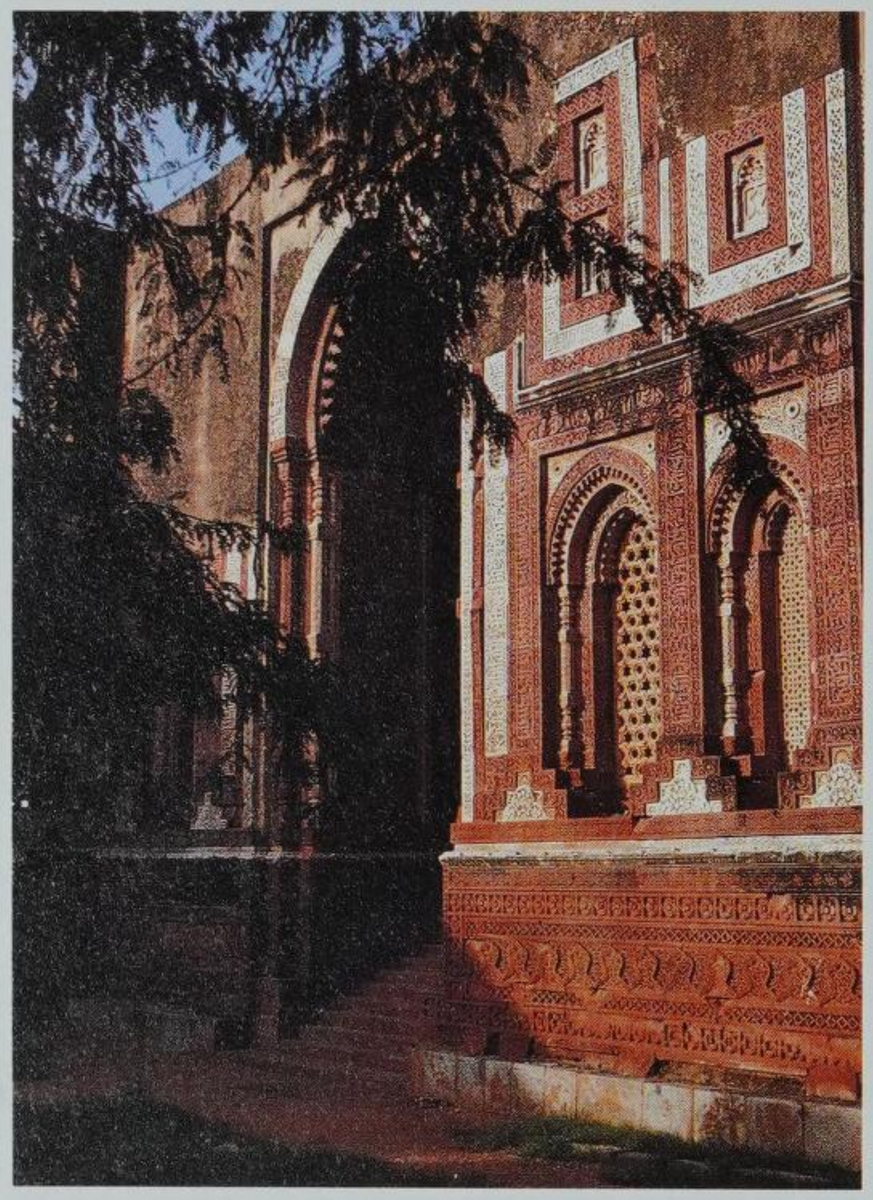
167;*22* Of Daulatabad's four main ring walls, the Muslims were probably responsible at least for the now ruinous outer one – nearly four and a half kilometres in circumference, protected by moat, glacis and massive bastions at regular intervals and once penetrated by eight gates. The Muslims, too, doubtless strengthened the series of bastioned gates which pierce the other ring walls. The extraordinary projecting triple gate of the most powerful double-walled, double-moated second circuit has semi-segmental outer walls like the great donjon of Château Gaillard in France – built by Richard Coeur-de-Lion after returning from his crusades against the Muslims in the Holy Land. Moreover, one of the guard chambers which deflects the route through the succession of courts has the Iranian type of lattice vault (painted for Firoz shah in Delhi) popular in the Deccan from the time of Ala-ud-din Bahaman II (1435-1447). That ruler built the Chand Minar in a west-Asiatic style in 1445 within the second circuit near the Jami-masjid. 186

Gulbarga's great days began in 1347, when Ala-ud-din made it his capital. It had been an important Yadava stronghold and while the old Yadava fortifications were doubtless overhauled early in the 14th century by the Khaljis from Delhi, most of what one sees at the bleak site today is due to the early Bahamanis. The 16-metres thick double wall, surrounded by a wide moat scarped out of the rock, is one solid mass but the wall walk of the inner range rises high above that of the outer to provide a most formidable two-tier defence. The massive bastions have revolving platforms for cannon, and there is evidence of machicolations. The merlons and blocked embrasures are both pierced with loopholes for musketry. Of the two main entrances, that from the town towards the east depended on a drawbridge and oval barbican immediately before it. The other gate faces open country to the west and is preceded within the fort by a an impressive street of whitewashed shop-houses in matching terraces. A spectacular horn-shaped projection, not unrelated to the main gate in the double wall at Daulatabad, incorporates no 167 less than four gates and four guarded courts deflecting the entrance towards maximum cover from battlements and bastions. The doors between the massive pair of outer bastions have formidable four-pronged anti-elephant spikes and three tiers of chains could be thrown across them for added security.

Gulbarga conforms to the ancient category of land fort and

223. Daulatabad, main gate in second circuit wall: **(a)** inter-mural passage; **(b)** guard-chamber vault.

Plate 23. Delhi, Quwwat-ul-Islam: Qutb Minar from *qibla* colonnade.



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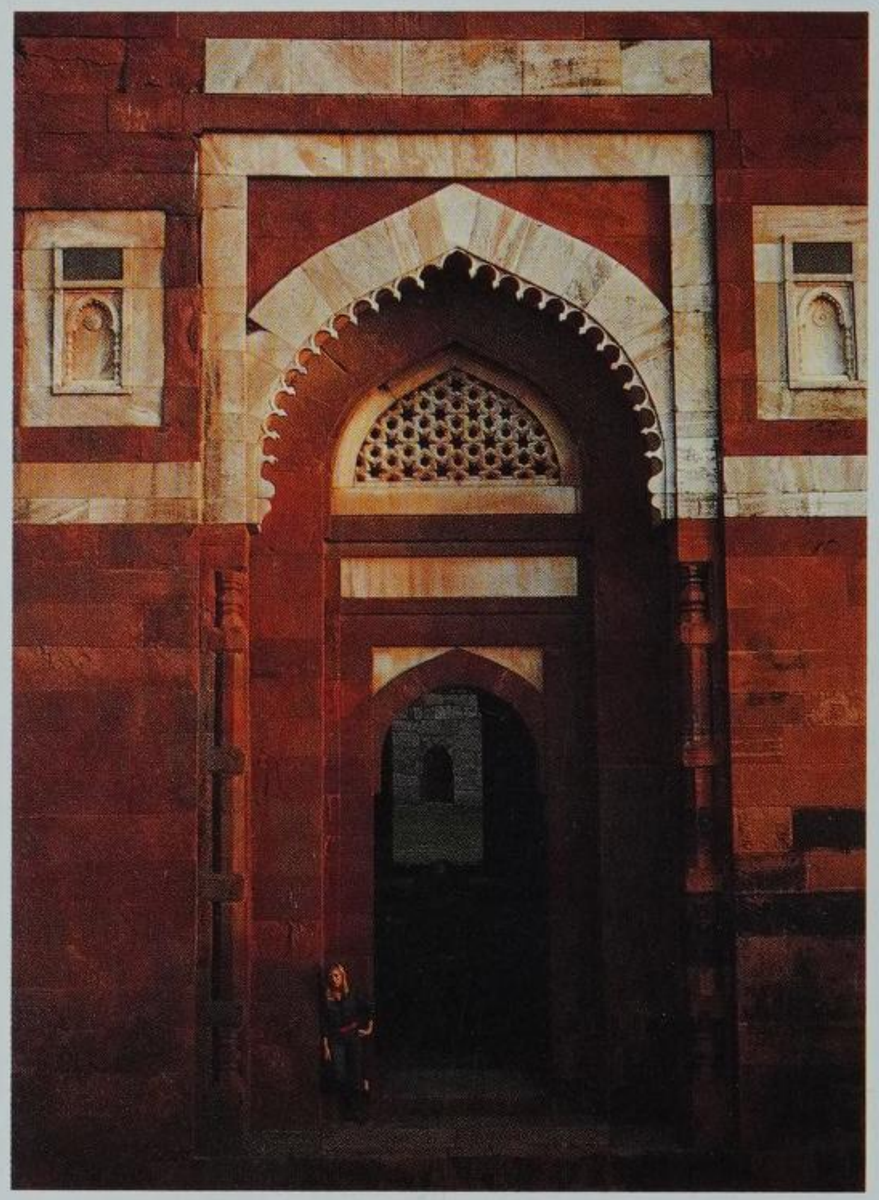
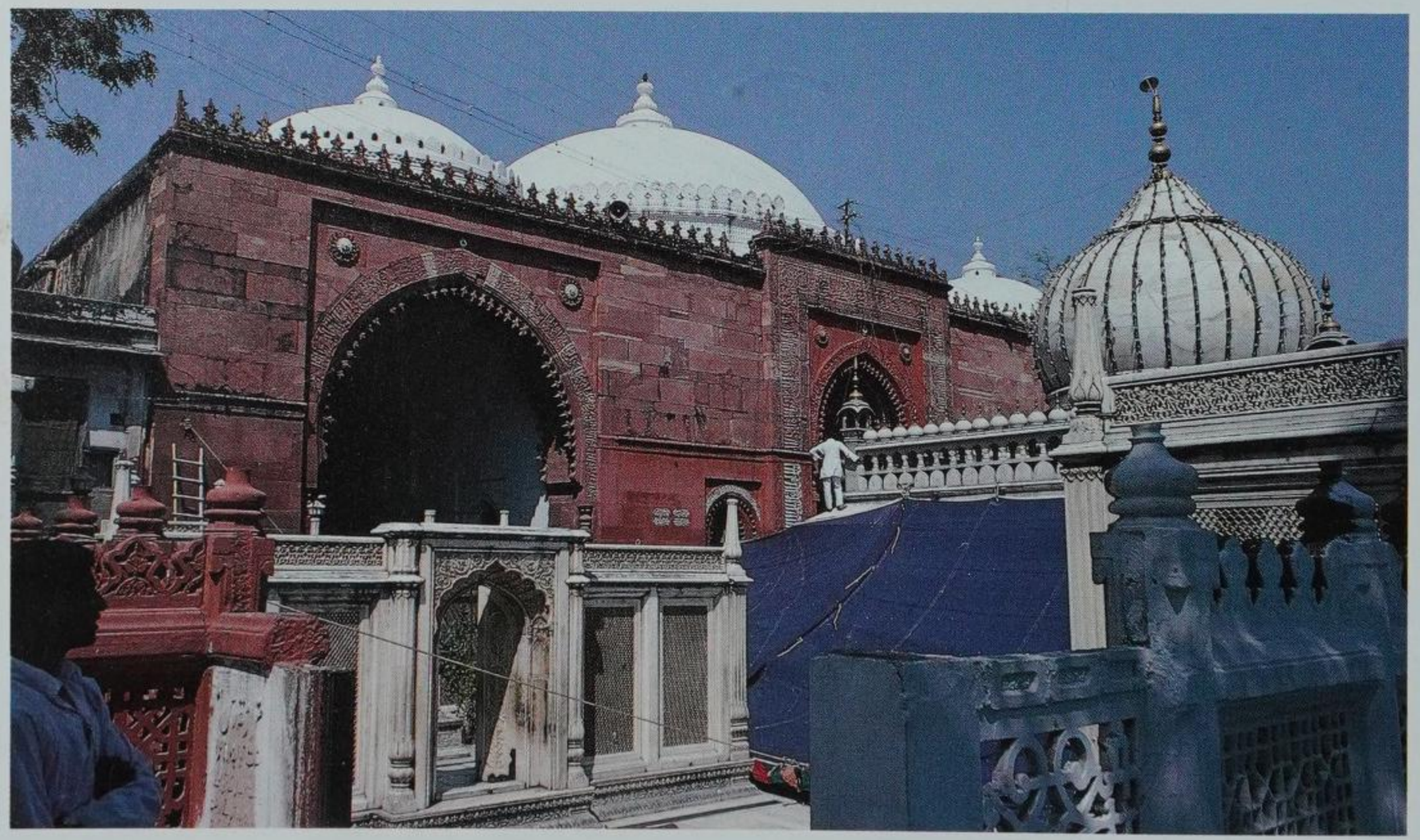


24 (b)

Plate 24. Delhi **(a)** Quwwat-ul-Islam: Alai Darwaza, south front; **(b)** Tughlaqabad: Tughlaq's tomb, west front detail; **(c)** Sheikh Nizam-ud-din Auliya's shrine, right, and Jam'at Khana from east.

Plate 25. Multan, tomb of Sheikh Rukn-i-Alam from south.

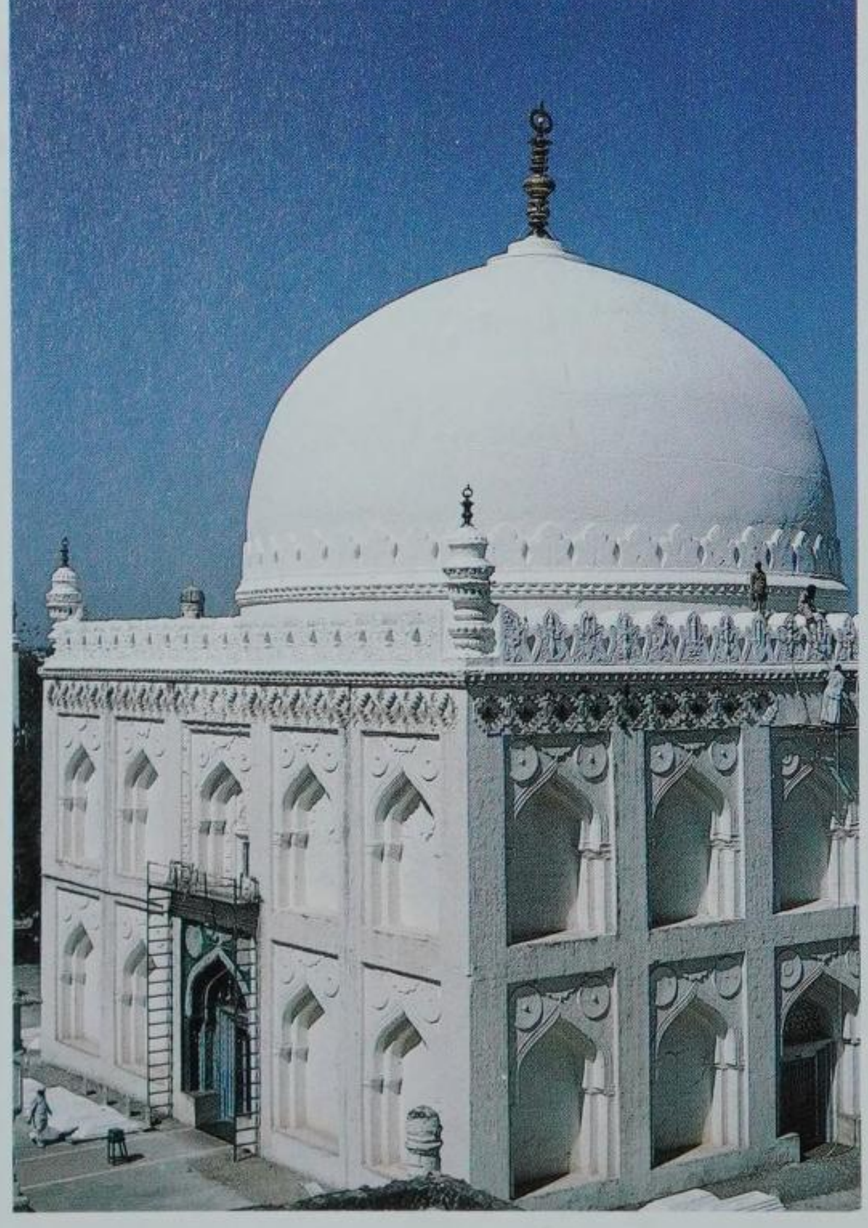


24 (c)

25 ▷

Plate 26. **(a)** Bidar, *madrasa* of Mahmud Gawan from south; **(b)** Gulbarga, tomb of Gisu Daraz from south-east; **(c)** Hyderabad, Char Minar from south.

26 (a)



26 (b)

26 (c)

Plate 27. Bijapur, Rauza of Ibrahim II: entrance from north.

Plate 28 (overleaf). Tirukalikundram, Shiva Temple from hill of the sacred white eagles.

Plate 29. Shrirangam, Ranganatha Temple: southern *gopuras* of outer enclosures from north.

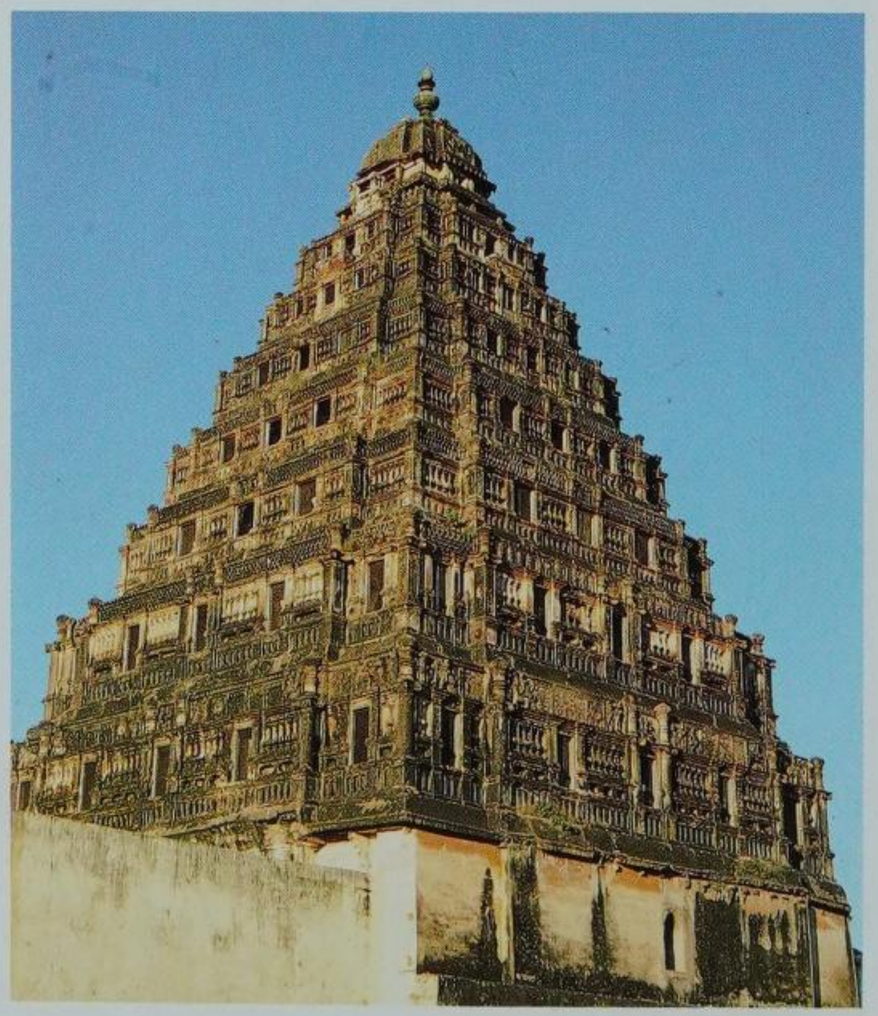
Plate 30. (a) Vijayanagara, Ramachandra Temple: hall before sanctum; **(b)** Shrirangam, Jambukeshvara Temple: great gallery before sanctum.

30 (a)

30 (b)

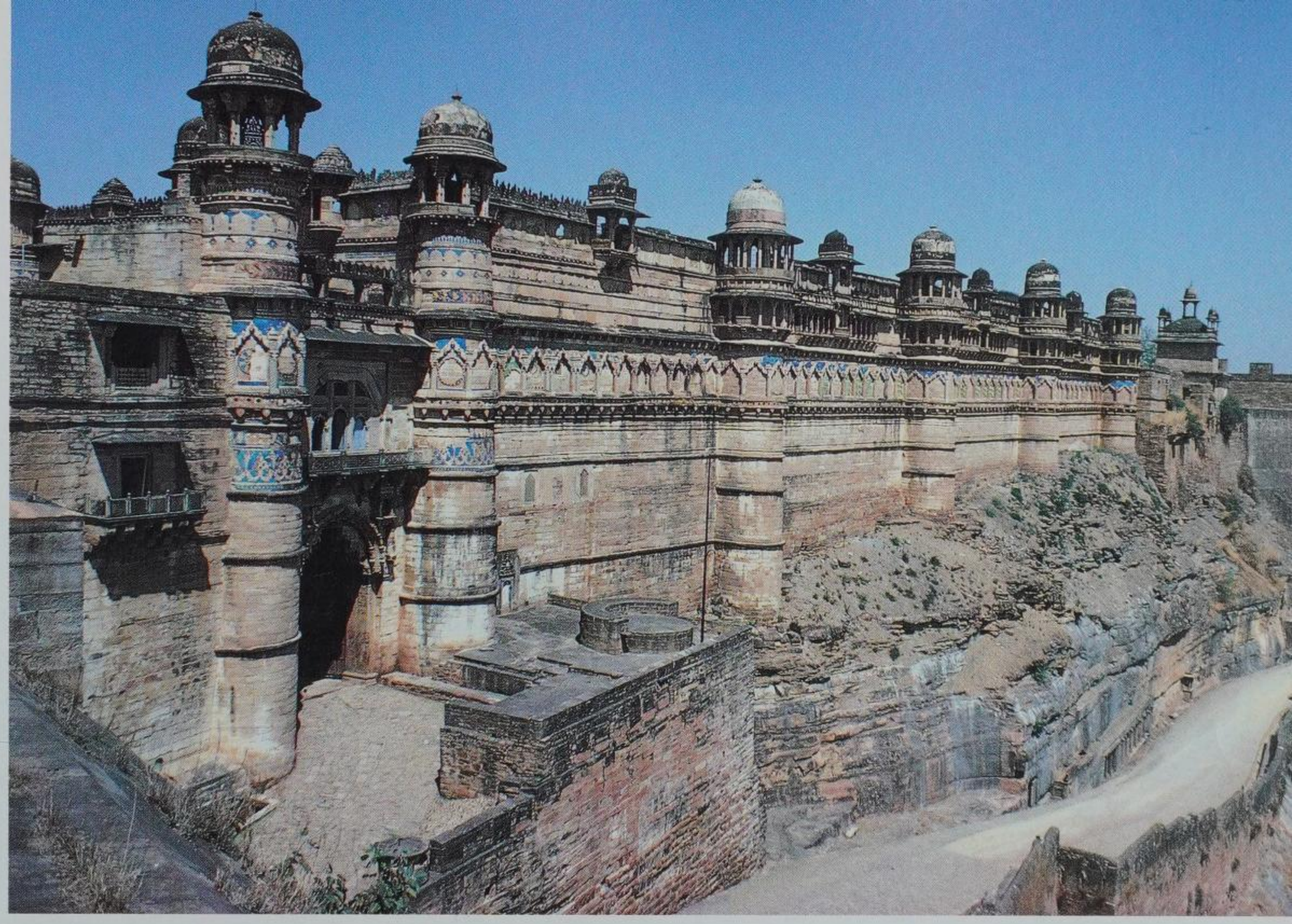
Plate 31. (a) Vijayanagara, Sulai Bazaar from north; **(b)** Vijayanagara, royal palace enclosure: Lotus Mahal; **(c)** Tanjore, royal palace: *prasada*.

31 (a)

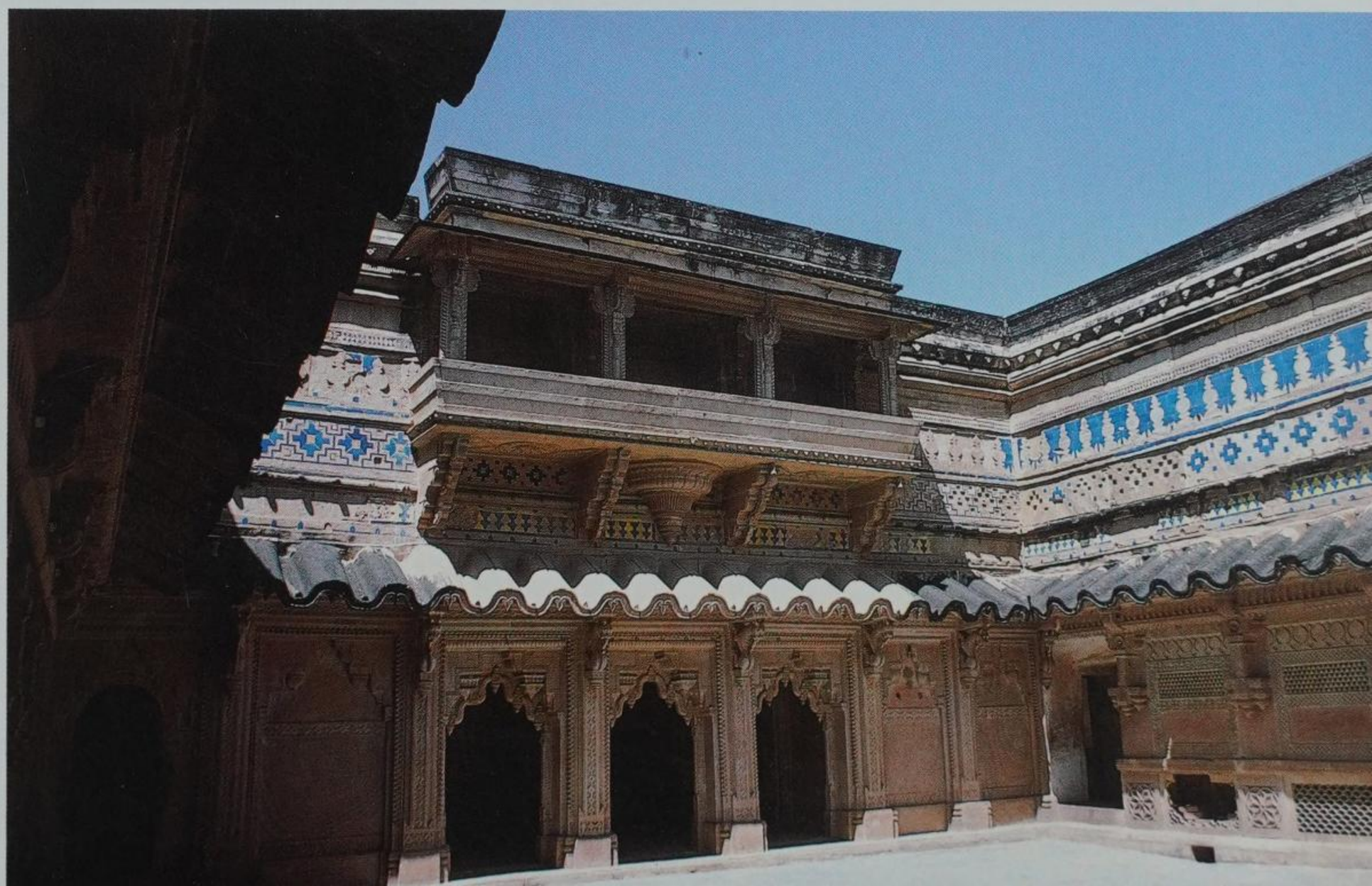


31 (b), (c)

Plate 32. Gwalior, Man Singh's palace:
(a) ramparts and Hathi Pol from south;
(b) western court.



32 (a)

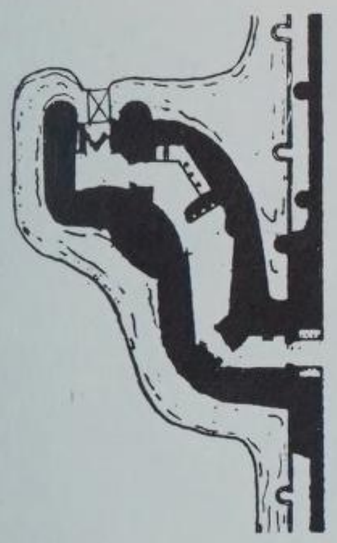


32 (b)

Plate 33. **(a)** Datia, Govind Mahal from south-west; **(b)** Mandu, Jahaz Mahal from west over Munja tank.

33 (a)

33 (b)



224 (a)

224. Gulbarga fort: **(a)** west gate plan; **(b)** moat, tiered ramparts and east gate; **(c)** Bala Hissar.

224 (b)

224 (c)

has no natural defences like the great eminence at Daulatabad. Instead the Bahamanis, again displaying awareness of west-Asiatic and Crusader practice, built the Bala Hissar. Outmoded in Europe by its time, this massive keep was to remain virtually unique in India. Rectangular, with six huge towers, its bulky grey-black walls are pierced by no embrasures below the level of the crenellations, except the entrance half way up the north face at the head of a long flight of steps.

Bidar succeeded Gulbarga as the capital of the Bahamanis in 1429 after Ahmad Shah (1422-1435) seized the throne from his brother Firoz. Gulbarga had been closer to the

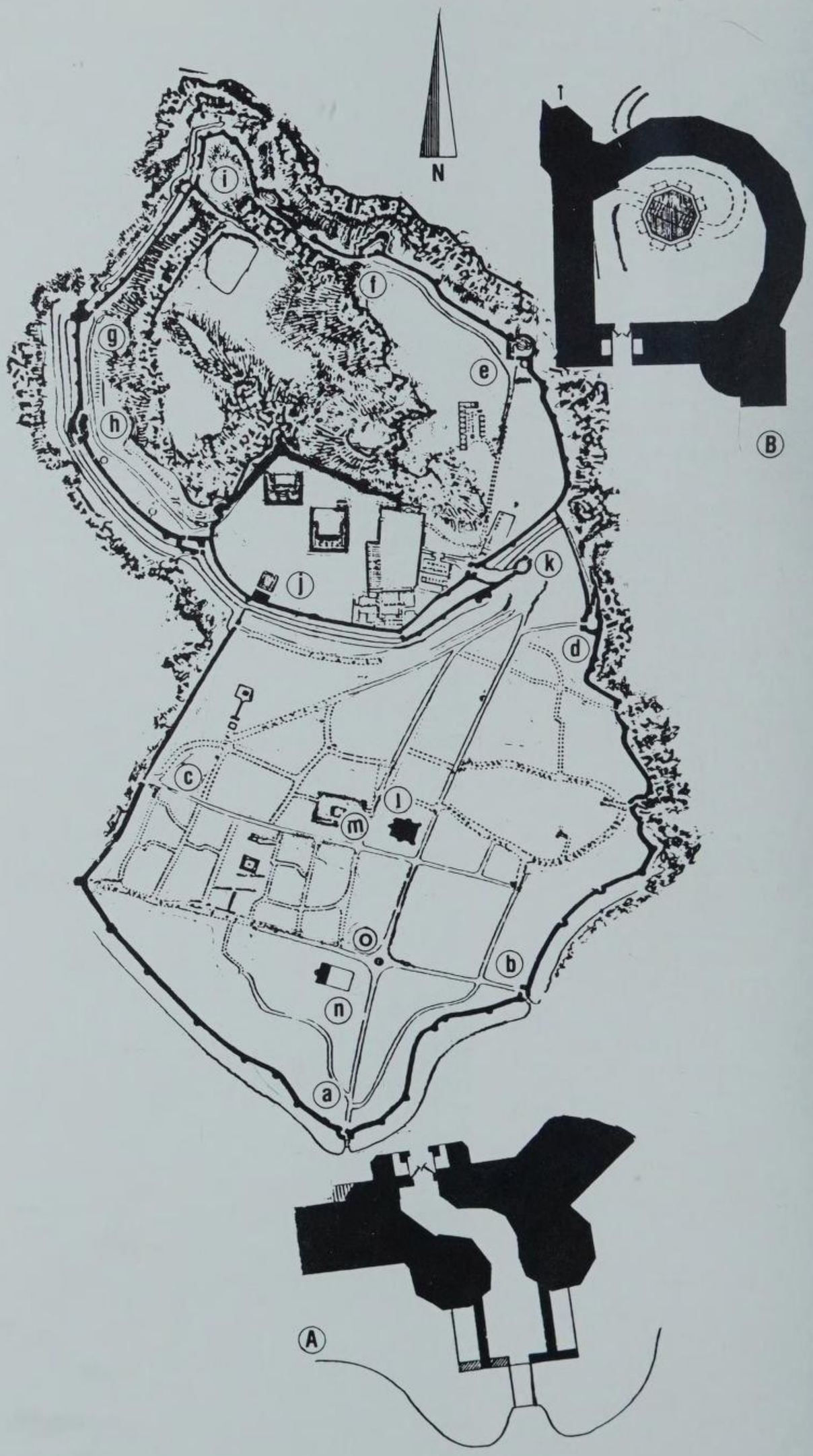
kingdom's frontier and the threat from Vijayanagara to the south was real. The new capital, towards the centre of the Deccan, developed the site of an outpost of the Kalyani Chalukyas, noted for its healthy climate and plentiful supply of water. The surviving fortifications were mostly built in the decades following the change in the town's fortunes by Ahmad Shah but the increasing efficacy of fire-power in the 16th and 17th centuries prompted their extensive modification.

Over 12 square kilometres in extent, the Bidar fort is situated at the end of a gradually rising promontory with its citadel at the northern tip over a dramatic 100-metre drop. The town, on the lower ground to the south, is surrounded by its own curtain wall abutting that of the fort and moated for much of its length. A triple moat 10 metres deep and hewn out of solid rock, perhaps for the Chalukyas, formed the boundary of the fort defences on the town side and its system of dams and sluices enabled the defenders to isolate the fort from the town. The walls, surviving virtually intact, are 14 metres high, doubled in part but varying in width from 16 metres on the low-lying southern side of the town to 6 metres above the most precipitous, northern slopes.

Of the irregularly spaced bastions, the most prominent is the mid-16th century Munda Burj at the western projection of the town walls, and a 23-metre high watch-tower known as Chaubara dominates the centre of the town. The town wall is joined to the fort wall by a dam across all three moats on the east but on the western side the central channel cuts the town wall under the protection of the 'Naubat Khana' which presumably housed a band ready to give the alarm.

Of five gates, the town's main southern and eastern entrances, the Fateh and Talghat gates, are the most sophisticated in incorporating much of the now familiar repertory of obstructive devices, including octagonal towers with machicolated projections beyond the drawbridge and barbican, dog-leg passages through to the iron-plated, spiked doors. The main entrance to the fort from the town is a triple gate spanning the triple moat between the double walls: the innermost one, attributable from its style to the period of Ahmad Shah, takes the name Gumbad Darwaza from its domed octagonal passage. There were five other gates to the fort – facing in the directions of the Carnatic, Kalyani, Delhi, Kalmadgi and Mandu – and the strong point of the northern eminence, the Purana Qila, which incorporated the remains of the Hindu citadel. On the north-east flank both gates and a postern providing secret access to the citadel, were reached through precipitous tunnels in the rock, that of the Mandu Darwaza looped through a subterranean guardroom whose vault was open to the barbican above.

The several palaces on an extensive platform in the southern section of the fort, between the Gumbad and Carnatic gates, were largely destroyed by their Adil Shahi occupants in the face of defeat by Aurangzeb in 1656. In general, as with the Mandu *daulat khana*, courts are



226

225. Bidar, fort and town, plan (1:20000): **(a and inset A)** Fateh Gate; **(b)** Mangalpet Gate; **(c)** Shahganj Gate; **(d)** Talghat Gate; **(e and inset B)** Mandu Gate; **(f)** Kalmadgi Gate; **(g)** Delhi Gate; **(h)** Kalyani Gate; **(i)** Purana Qila; **(j)** palace complex; **(k)** Gumbad Gate; **(l)** *madrasa* of Mahmud Gawan; **(m)** market; **(n)** Jami-masjid; **(o)** Chaubara.

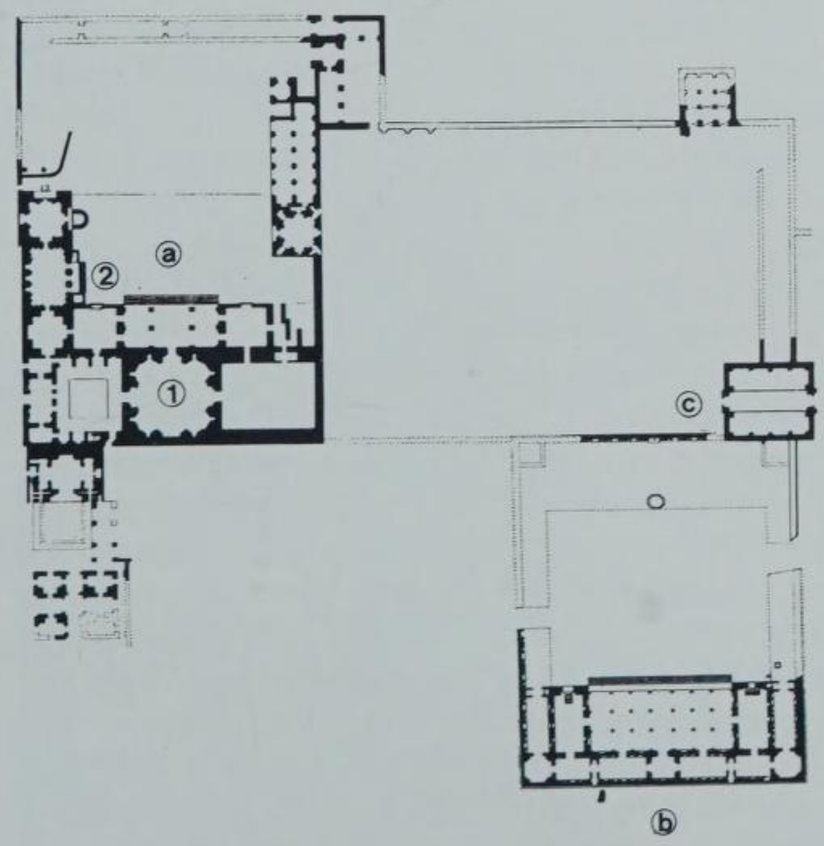
226. Bidar: moat and walls between town and fort below Rangin and Gagan Mahals.

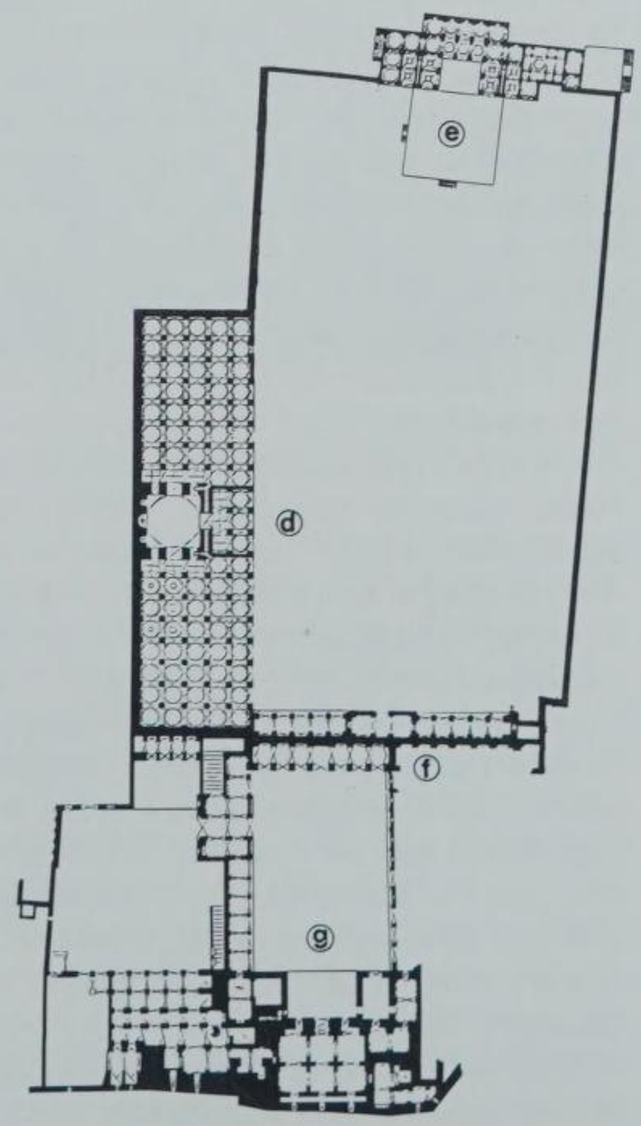
227. Bidar, principal elements of royal palace complex plan (1:2000): **(a)** Takht Mahal with **(1)** throne room; **(2)** mosque; **(b)** *diwan-i-am*; **(c)** entrance pavilion to principal royal compound; **(d)** Solah Khamba Masjid and Lal Bagh; **(e)** baths; **(f)** Tarkash Mahal – conjectural in part; **(g)** Gagan Mahal with outer court left.

surrounded by varied chambers but in place of a vaulted *iwan*, the dominant recession seems usually to have been filled with a trabeated *talar*. This cross-fertilization of imported forms and indigenous methods was to prove enduringly popular with Deccani palace builders.

Of the three main groups of palace buildings, the complex nearest to the Gumbad Darwaza was probably the establishment of the provincial governor before Bidar became the capital. Its principal element, much altered and known as the 'Shahi Matbakh' (Royal Kitchen), may have been the original hall of audience. The living quarters, in a tower to the south-east, were transformed into the sumptuously-tiled 'Rangin Mahal' (Coloured Palace) by Mahmud Shah after he had withstood a revolt there in 1487. The mid-16th century sulltan Ali Barid added a suite to the south of the main court which was entered through a *talar* carried on distinctly Hindu wooden columns and brackets. With Persian motifs in mother-of-pearl inlay, the inner apartment culminated in a fountain-cooled chamber which, in its rich indentation, cedes little to a Deccani temple *vimana*.

To the west, the massive Solah Khamba Masjid was founded in 1423 by Ahmad Shah's son Muhammad when he was governor of the province. Bidar's principal mosque until the construction of the Jami-masjid in the town under the late Bahamanis, it was the main palatine mosque thereafter and its court was expanded to form the somewhat surprisingly irregular Lal Bagh whose watercourses linked the 'Royal Bath', at the northern end, with the *zenana*. The courts of the latter were developed by both Bahamanis and Barids between the so-called 'Tarkash Mahal' (Turkish Palace), along the southern side of the Lal Bagh, and the 'Gagan Mahal' (Heavenly Palace) on the ramparts further south. The complex building history of the former is difficult to disentangle from its ruins. The main court of the latter was dominated by an





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iwan-like recession which may well have been arcaded like its namesake at Bijapur. Adjacent to the west, the halls and chambers on the south of the outer court were doubtless the sultan's private quarters.

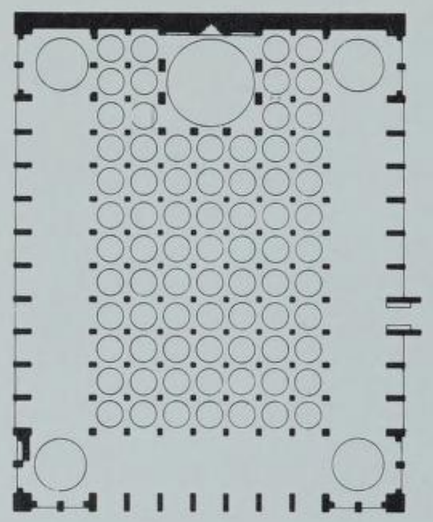
Further west, the third main complex consists of the court and halls of public and private audience. The court of public audience preceded the huge *talar*. With three rows of six wooden columns and tiled revetment of Persian inspiration, this was backed and flanked by rooms on several levels – like the Athar Mahal at Bijapur, but on a larger scale. Its date is uncertain but the rest of the complex, the so-called 'Takht Mahal' (Throne Palace), may be attributed to Ahmad Shah. This provided for private audience. Its court, flanked by a mosque and varied chambers cooled by watercourses, was addressed by another *talar*, recessed in place of an *iwan*, before the vast, vigorously indented, once resplendently tiled, octagonal *qubba* which dominated not only the great palace platform, but the entire fort.[22]

238(a),(b)

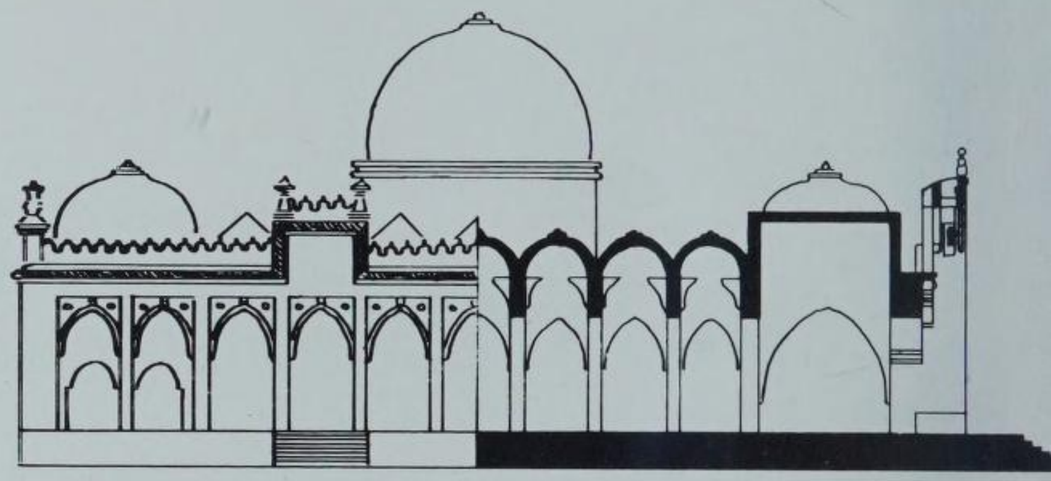
The Bahamanis' Shi'ite leanings towards Persia are clearly revealed in their mosques. The earliest mosque at Gulbarga, the Shah Bazaar which was probably founded by Muhammad Shah I Bahaman (1358–1373), is one of the first in India to reflect contemporary Timurid interest in the multi-bay prayer halls of the Jami-masjid of Isfahan – if not remote Anatolian precedents. This approach was certainly then being favoured by the architects of Firozian Delhi, but its most original expression is the Jami-masjid of Gulbarga built for Muhammad I in 1367 by one Rafi of Qazvin.[23]

On a rectangular base, Gulbarga's main mosque has arcades two bays deep and a triple-aisled prayer hall may be distinguished. However the minor domed bays of the hall are extended to cover the whole court area and the 'cloisters' are cross-spanned by great single ogee arches springing from low imposts on simple square piers between secondary domed spaces at each corner. Purely architectonic, the effect is drawn from the simple repetition of the two types of arch which seem to float over anonymous supports – and for this at least a precedent is to be found in the Jami-masjid of Herat. In subtle counterpoint, cusped arches make an appearance in the northern entrance, the *mihrab* and the squinches in the clerestory of the *qubba*. The latter have an idiosyncratic trefoil form which may be traced back to the Seljuk work at the Isfahan Jami-masjid.

The Delhi mosques of Tilangani seem to reflect Rafi's concern with the provision of cover, compromising between total exposure and total enclosure, but as we have seen their experiments were not to prove fruitful. However Bidar's main mosques, the Solah Khamba and the extensive Jami-masjid of Ahmad Shah – built just before and just after the transfer of the capital – combine deep multi-bay prayer halls with courts. On the other hand, the low-sprung, broad-span ogee arch of the Gulbarga Jami-masjid was not to be widely used by the later Bahamanis or the Barids who succeded them in the mid-16th century. Following the Jami-masjid at Bidar they favoured more conventionally proportioned forms without imposts. The Gulbarga form, however, was to be extremely popular with the Adil Shahis of Bijapur who absorbed Gulbarga late in the 15th century.



228 (a)

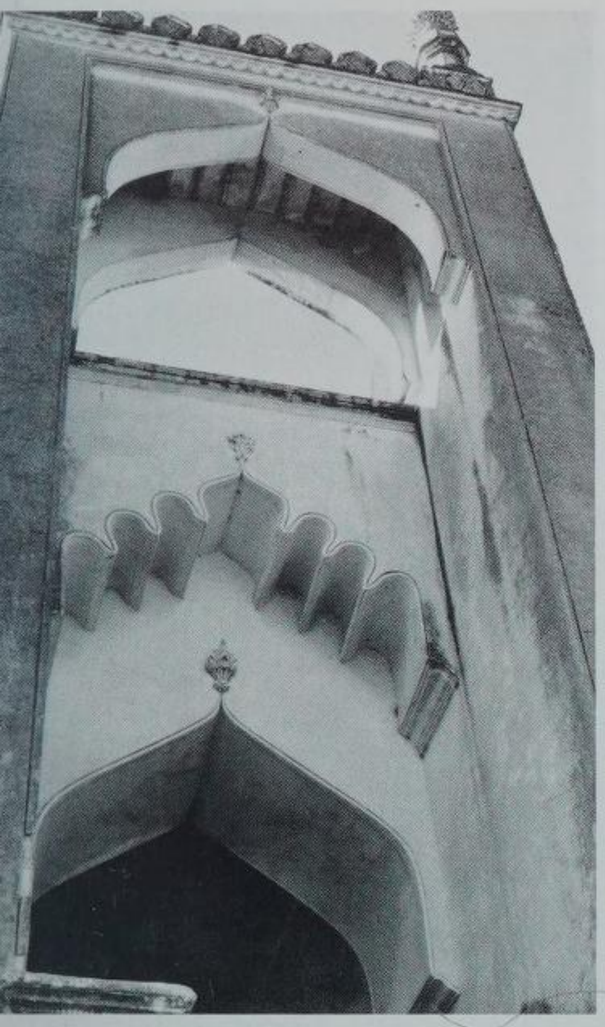


228 (b)

228 (c)

Bahamani *mihrab* arches were first recessed, then cusped, and those of the Barids and Adil Shahis generally follow suit. Trefoil arches like those of Rafi's *mihrab* and squinches, incidentally, reappear two or three generations later in the three-bay facade of Gulbarga's Langar-ki Masjid where they are supported on distinctly Hindu serpentine brackets. This in itself marks a secondary line of Bahamani development. Beyond the use of Hindu materials and craftsmen, the Bahamani interest in the indigenous legacy is perhaps first revealed by the *chadya* of the Shah Bazaar prayer hall and the *kalasha* pinnacles of the Gulbarga Jami-masjid. It reappears in the door-frames and eaves of the tomb of Firoz Shah (1397–1422) and led, for instance, to the incorporation of elaborate flying arches below a *chadya* in the facade of Mujarrad Kamal's *dargah masjid* at Gulbarga. Indigenous Hindu elements were to play a subordinate role in Deccani

228. Gulbarga, Jami-masjid: **(a)** plan (1:1000); **(b)** part-section north-south, part-elevation east range; **(c)** from north-east; **(d)** north entrance; **(e)** outer arcade; **(f)** inner arcades; **(g)** central *qubba* with *mihrab* and *minbar*.



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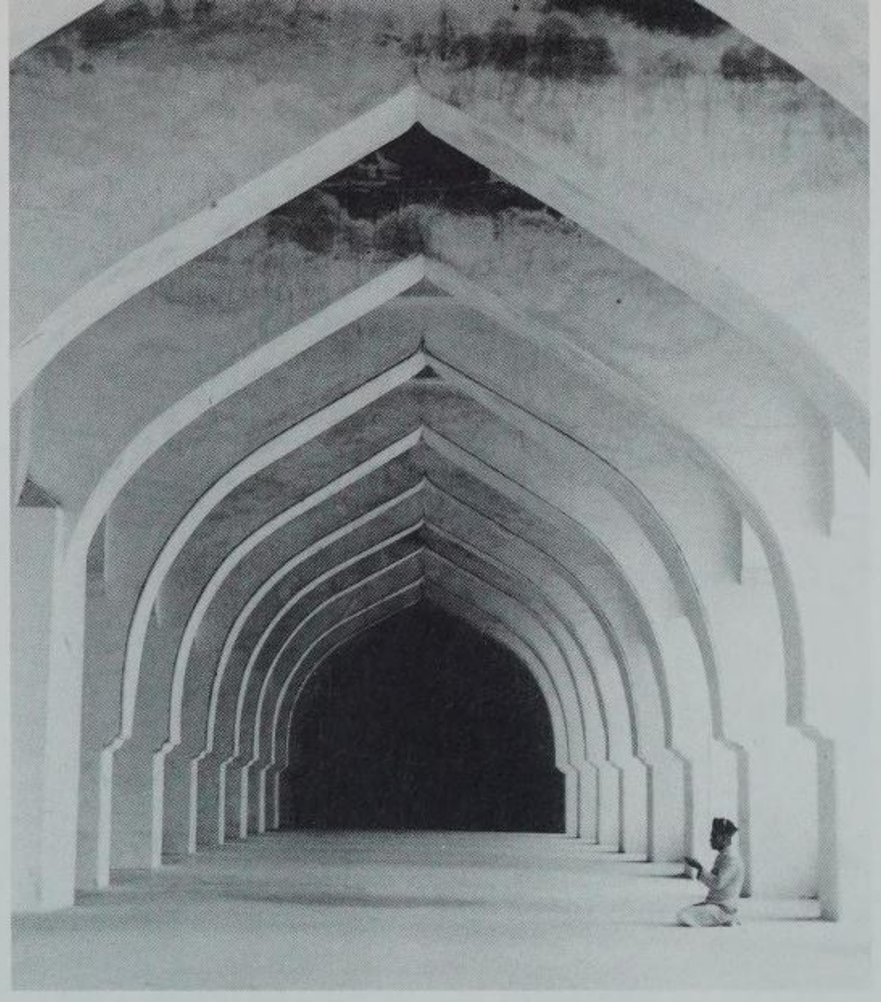

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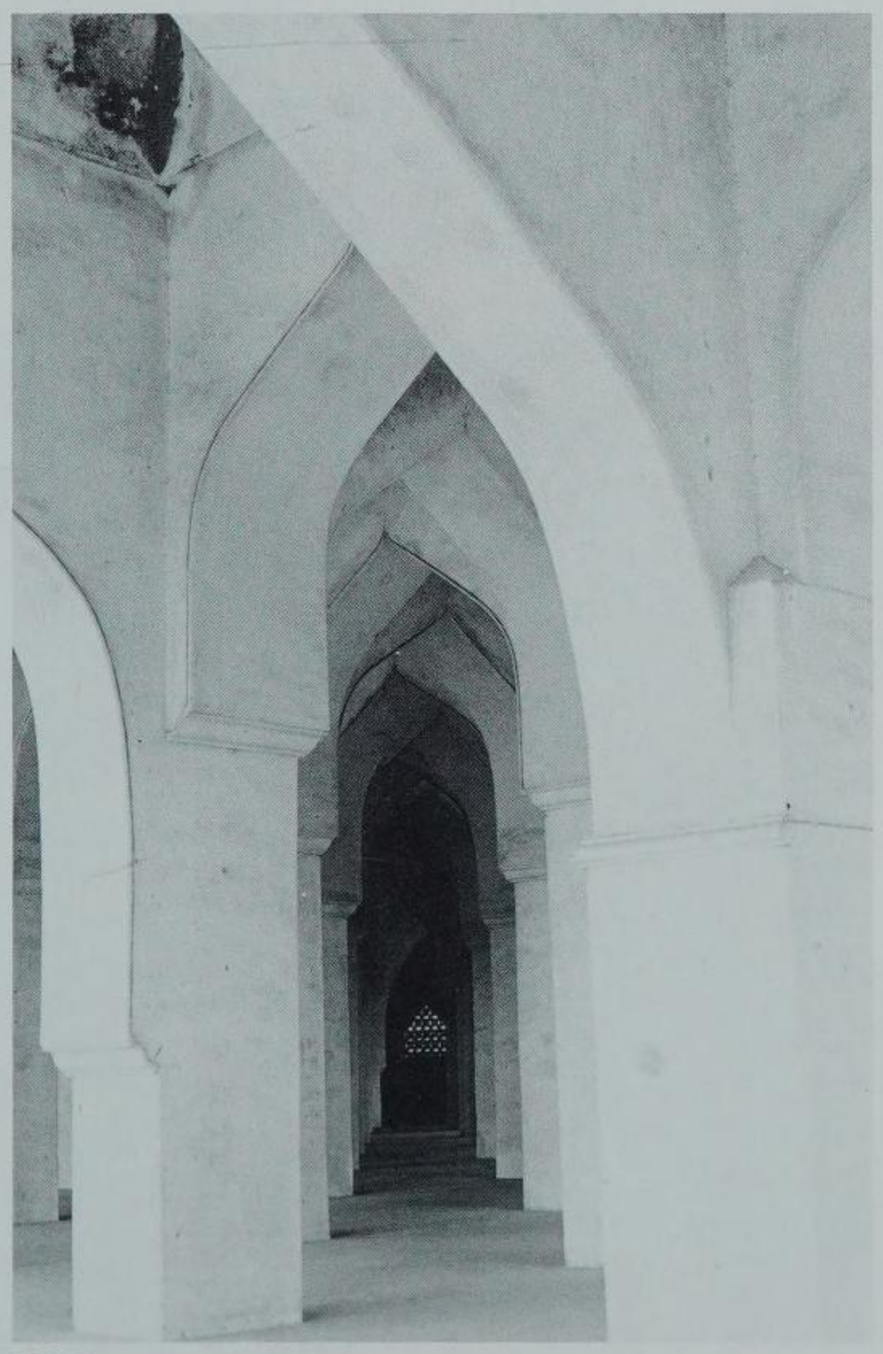

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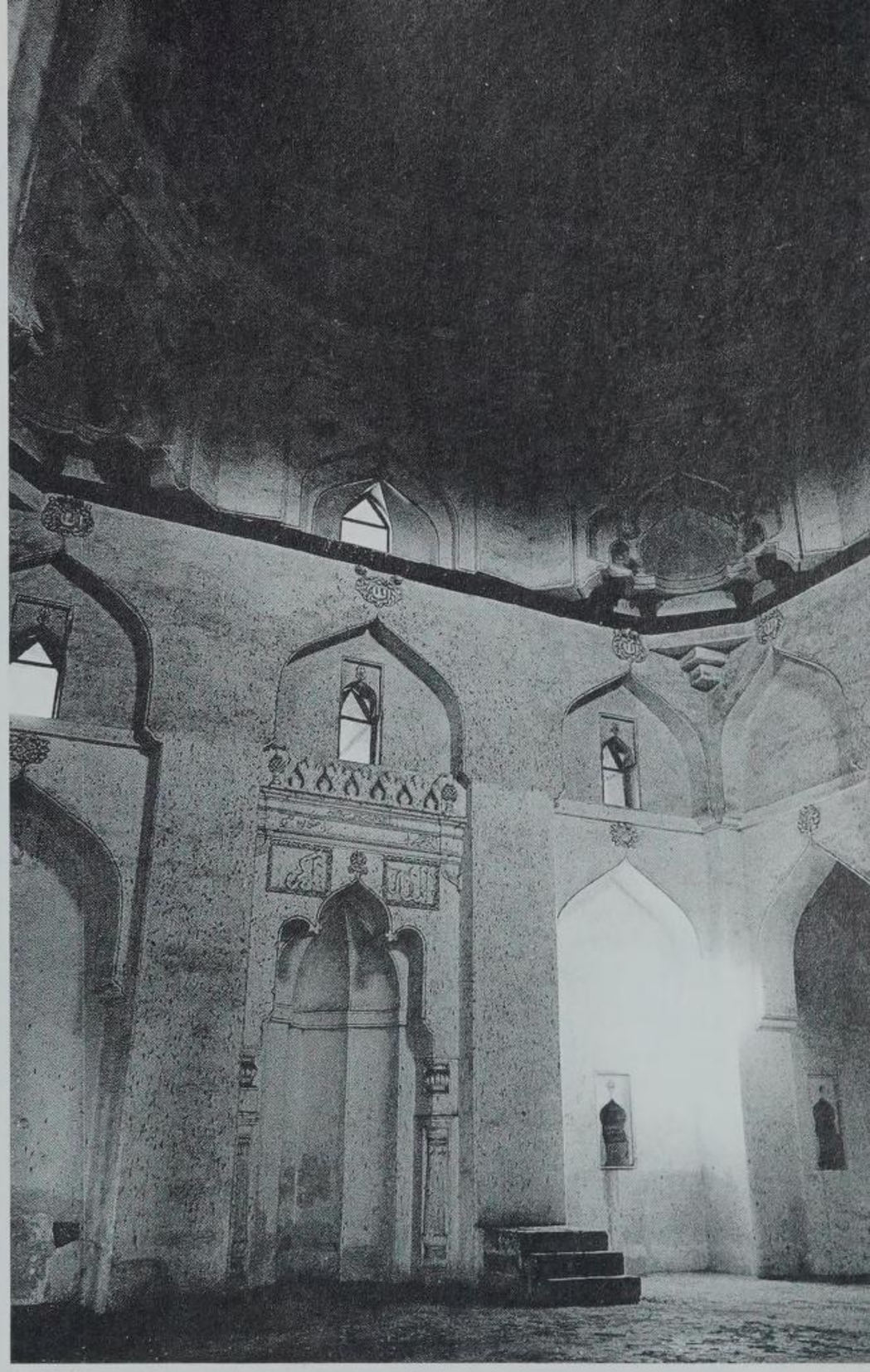


228 (g)

Muslim architecture until the Adil Shahis appreciated the full potential of the local repertory.

The tombs of the first Bahamani rulers at Gulbarga are essentially Tughlaqian simple domed *qubbas* of plastered rubble, any stone or stucco relief confined to the apex or spandrels of the principal arch. Doubled to provide for members of the royal family, the tomb of Firoz Shah at Gulbarga anticipates the Alai Darwaza-inspired practice of post-Tughlaqian nobility in Delhi – if it does not in fact reflect precocious development there – in its two registers of arcaded niches and screened windows. But its walls remain battered and its domes are low-slung, without drum – quite contrary to the monumental form of the Jami-masjid. Transition from square to octagon below the springing of the dome is usually effected by squinches but receding horizontal courses and *muqarnas* are occasionally found. As in the

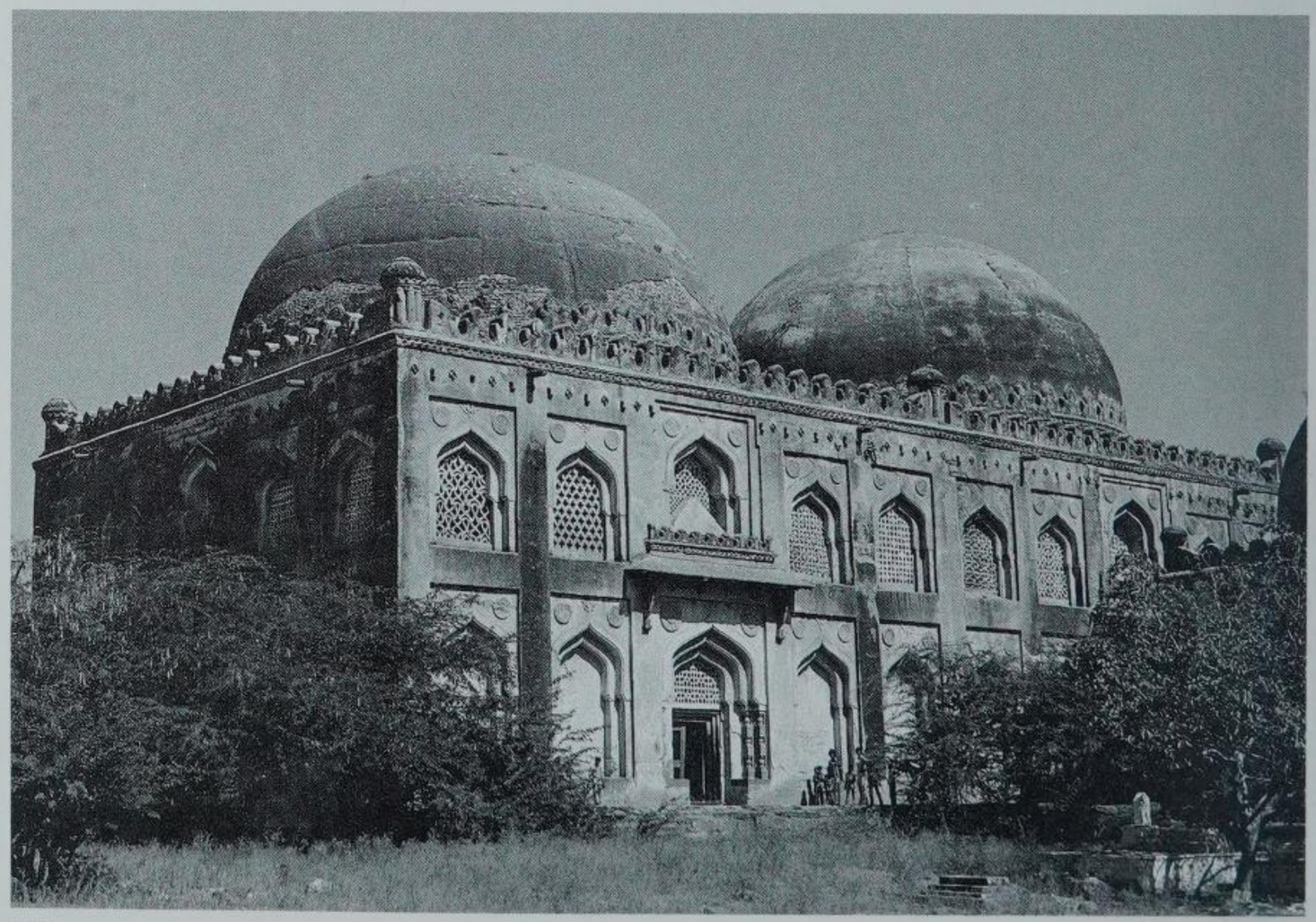
229. Gulbarga, Langar-ki Masjid: prayer hall from south-east.

229

earliest Bahamani mosques, parapets are fringed with simple merlons and corners are marked by fluted pinnacles with semi-spherical caps.

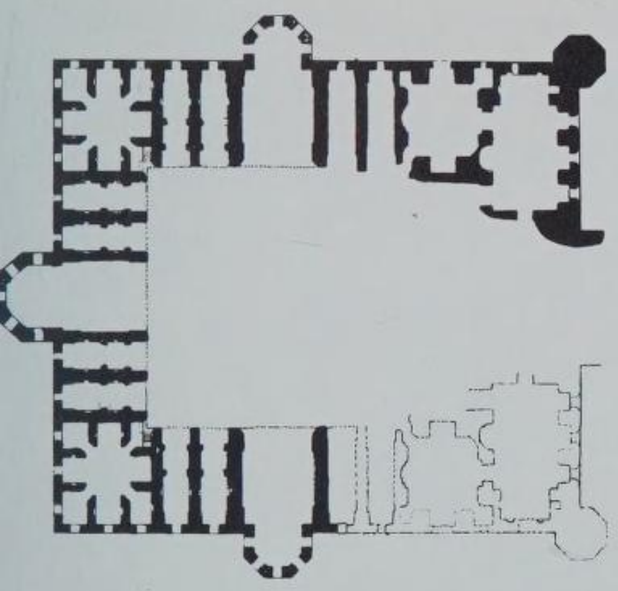
As at Delhi the main line of Bahamani development thereafter was the proliferation of bays and the stilting of domes over octagonal drums, but there is a greater wealth of detail in moulded stucco or carved stone. The extended Bidar series of tombs, beginning with the largely blind three register mass of Ahmad Shah I which was repeated at *26(b)* Gulbarga for Gisu Daraz, embraces a wider range of variations on the handling of richly detailed open and closed arcades than was common in Delhi, though three-storey compositions were to become common there too. Ahmad Shah's architect replaces the low, flat Tughlaqian dome with a stilted form on an octagonal drum. The caps of finials emerge like buds from the petals of a *padma-kosha* and *padma-koshas* crown domes – as in Bidar's Solah Khamba mosque.

In place of the usual arch or corbel forms, mid-15th century Bahamani builders experimented with the interpolation of the apex of a pointed arch between the main arches of *qubba* chambers, producing a star-shaped perimeter for the low-slung vault, after the example set in such works as the vaulted chamber in the main gate of the second ring-work of Daulatabad. Variations on this promoted lattice-like

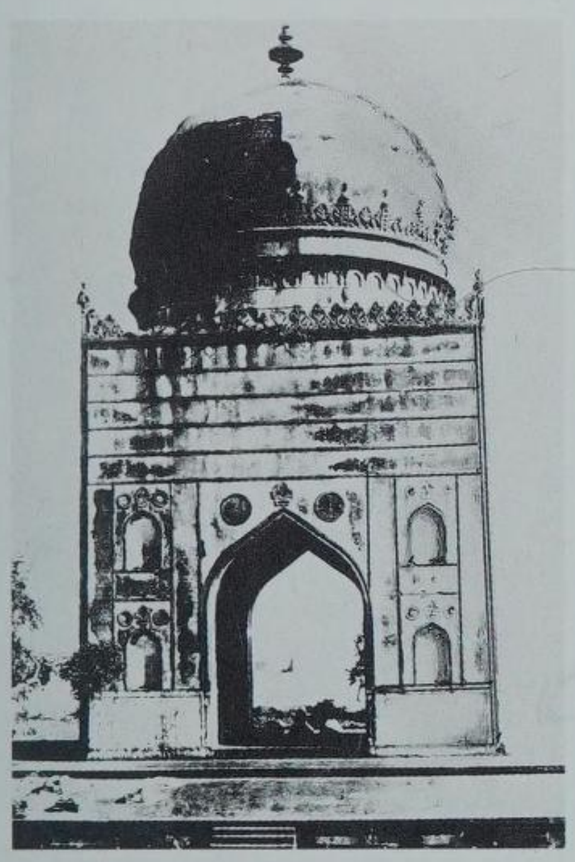


230. Gulbarga, tomb of Firoz Shah.

230



231. Bidar, *madrasa* of Mahmud Gawan: plan (1:1000).



232. Bidar, tomb of Ali Barid.

pendentives by the time the Bahamanis were replaced in Bidar by the Barids. More florid merlons enrich later Bahamani works and while pinnacles derived from the early type are most common, they are occasionally displaced by tiny *chattris*.

Apart from the spectacular fortress, Bidar's chief claim to architectural distinction is neither tomb nor mosque but the great *madrasa* of Mahmud Gawan, the Persian minister of Muhammad Shah Bahamani III (1463-1482). Despite the quality of the work, the type represented by this Iranian importation was not to be favoured in India.

An elevation of three storeys of cells for students in a *madrasa* is rare but the rigorously symmetrical four-*iwan* plan of Mahmud Gawan's foundation, its arcading and revetment of brilliantly coloured tiles, are related to contemporary Timurid work – the most notable intermediary between Gawan's *madrasas* and those of Khargrid and Samarkand being the lost one of Gawhar Shad in Herat. As in the work of Gawan-al-din Shirazi at Khargird, the mosque in Gawan's *madrasa* is balanced by a hall on the other side of the entrance. Its monumental minarets are exceptional amongst the works of the Bahamanis and Barids though they are anticipated to some extent by the more elaborate Chand Minar of Ala-ud-din II Bahaman at Daulatabad. Their example was to be emulated early in the 16th century by the first of the Adil Shahis in the grand facades added to the shrines of the *sufi* saints Siraj-ud-din Junadi and Gisu Daraz at Gulbarga which are themselves the most substantial of the Bidar *madrasa's* few derivatives. The bulbous form of dome – as yet squatter than that of Gawhar Shad for example – appears in Gawan's work for the first time in India: it was to predominate in the 16th century, for instance in the tombs of the Barid Shahis at Bidar.[24]

The Deccan: Golconda and Bijapur

The dynasties which established themselves in the Deccan early in the 16th century at the expense of the Bahamanis – the Barid Shahis of Bidar, the Imad Shahis of Berar, the Nizam Shahis of Ahmadnagar, the Qutb Shahis of Golconda and the Adil Shahis of Bijapur – were all active patrons, especially the rulers of Golconda and Bijapur. They all built on Bahamani experience to some extent. Like the Faruqis of Khandesh, however, the Imad Shahis and the Nizam Shahis who absorbed them were to find the influence of neighbouring Gujarat and Malwa irresistible. On the other hand, the Nizam Shahis, like the Barids, sustained some Bahamani fondness for Persian forms.[25]

The longer-lived, more fecund Qutb Shahis accepted the ripe style of their predecessors, promoting its hectic decadence in flirtation with the already tired local Hindu tradition and cross-fertilization with the neighbouring style of Bijapur. Representative of their early efforts, late Bahamani in stlye, are the tombs of the 16th-century rulers – notably those of Quli Qutb Shah, the founder of the dynasty (died 1543), and Ibrahim (died 1580) – outside their seat at Golconda, the splendid fort built on its Kakatiya predecessor from 1512 by Sultan Quli and enlarged by Sultan Ibrahim to embrace his vast palace.[26]

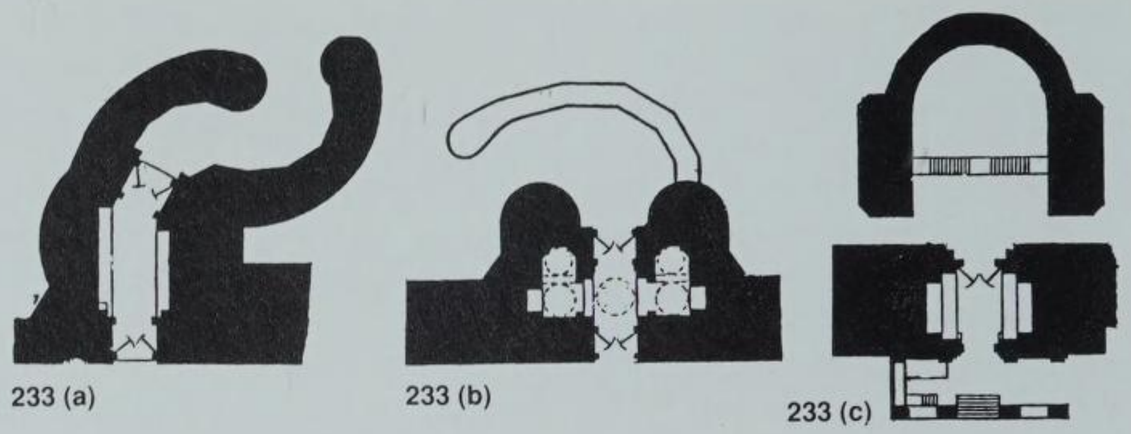
The main citadel, 32 metres above the town, is fortified by three ranges of walls. Girdling the town for over 7 kilometres and enclosing an area of nearly 8 square kilometres, the outer defensive wall is 6 to 12 metres thick, over a splayed base and reinforced by 87 powerful bastions for artillery, of which the Pella Burj, projecting well out to the west, is the most formidable. These walls were extended early in the 18th century to enclose an extra area to the north-east. The second range is a convoluted double wall which follows the base of the rugged Bala Hissar citadel's hill. The third line links massive outcrops of rock to divide the citadel into sectors.

Most of the outer wall's eight gates, of which only four are still in use, had various forms of barbican to protect them from frontal attack and deflect an assailant's path through 90 degrees past stout bastions. The Mecca and Banjari Gates are excellent examples, the latter with domed court and guard chambers between its doubled doors. The main entrance, the Fateh Darwaza, has a barbican of semicircular spur walls, crenellated and box-machicolated, deflecting passage along a serpentine path to a guarded court between two pairs of iron clad, elephant-spiked doors. It is embellished with Hindu motifs and so too is the Bala Hissar's own great gate. Preceded by a triumphal arch, this gate has a semi-circular mantlet with faceted outer walls, crenellated and box-machicolated, around a raised platform commanding the entrance.

The Hindu motifs incoporated in the gates may well take their origin back to the days of the Kakatiyas. More likely, perhaps, they reveal the religious tolerance of the Qutb Shahis. Even more tangible evidence of this is provided by the remains of both temples and mosques and amidst the ruins of the great palace complex begun by Sultan Quli to emulate the example set by his former masters at Bidar and greatly extended by his successors. They are reached by what is now little more that an avalanche of fallen masonry.

In the dynasty's later works the accumulation of small-scale elements such as arcaded galleries and miniature, turban-topped minarets denied the monumentality of often large and simple masses. Representative of this phase are the tombs of Sultan Muhammad (died 1612) and his successors at Golconda – the former incorporating significant trabeated elements. These apart, the dynasty's most important surviving work is in Hyderabad, founded late in the 16th century as the new capital. Convolution is most apparent in the Jami-masjid there, and the multiplication of forms at variance with the scale of the whole is nowhere better illustrated than in the celebrated Char Minar which marks the

233. Golconda, citadel: **(a–c)** Fateh, Banjari and Bala Hissar Gates, plans (1:1000); **(d)** from east.



233 (a) 233 (b) 233 (c)

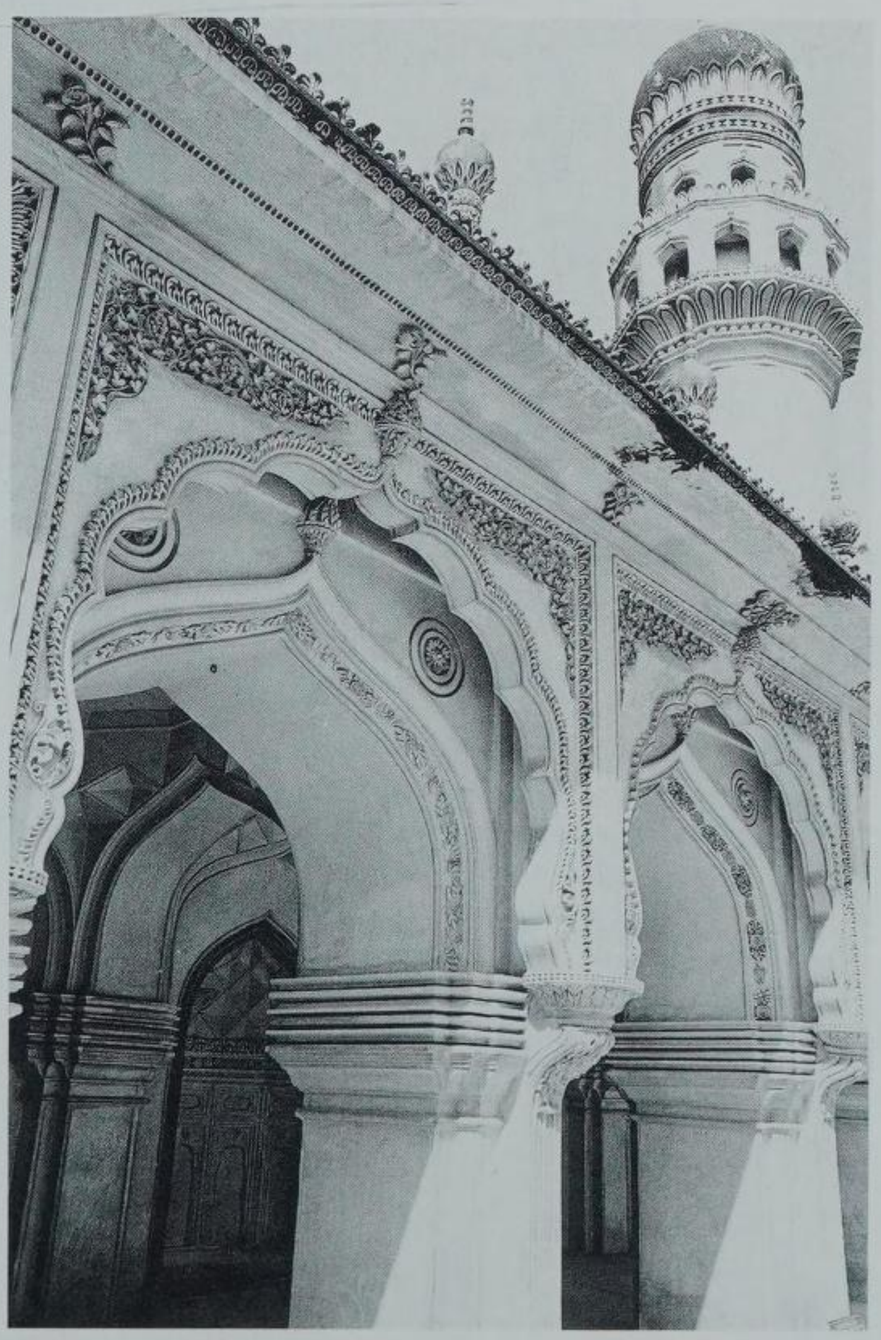
233 (d)

crossing of the two main axes of that impressively planned town.[27]

Most prolific of all the Deccani builders were the Adil Shahis. The founder of the dynasty, Yusuf Adil Khan, built at Gulbarga in the Bahamani style but resided in the great concentric fort at Raichur, with its amazing boulder-strewn *motte*, founded in Yadava times. His successor Ismail (1510-1534) moved to Bijapur which had been an important Chalukyan stronghold before passing to the Yadavas, the Delhi Khaljis and the Bahamanis. Situated on an extended plain, Bijapur is one of India's great metropolitan forts. It has no natural stronghold but the Hindus bequeathed the formidable Arh Qila citadel which Sultan Ismail reinforced and within which he built the first of his line's many palaces. His successors sustained an astonishing dynastic building campaign for some four generations. They developed an extensive fortification programme for the town which involved a formidable ring wall some 10 kilometres in circuit. They continually expanded the palace and its defences and executed great public works like the Taj Baoli of Ibrahim II. They built a series of tombs, unrivalled in India except by those of the great Mughals, and over fifty mosques including the monumental Jami-masjid which emulated Rafi's work at Gulbarga in commemoration of victory over Vijayanagara.[28]

The moated and crenellated curtain-wall round the city, up to 12 metres thick and 10 metres high, built of impacted earth with stone revetment outside and in, is strengthened by over one hundred irregularly spaced bastions. Of these

234. Golconda, tomb of Sultan Muhammad.

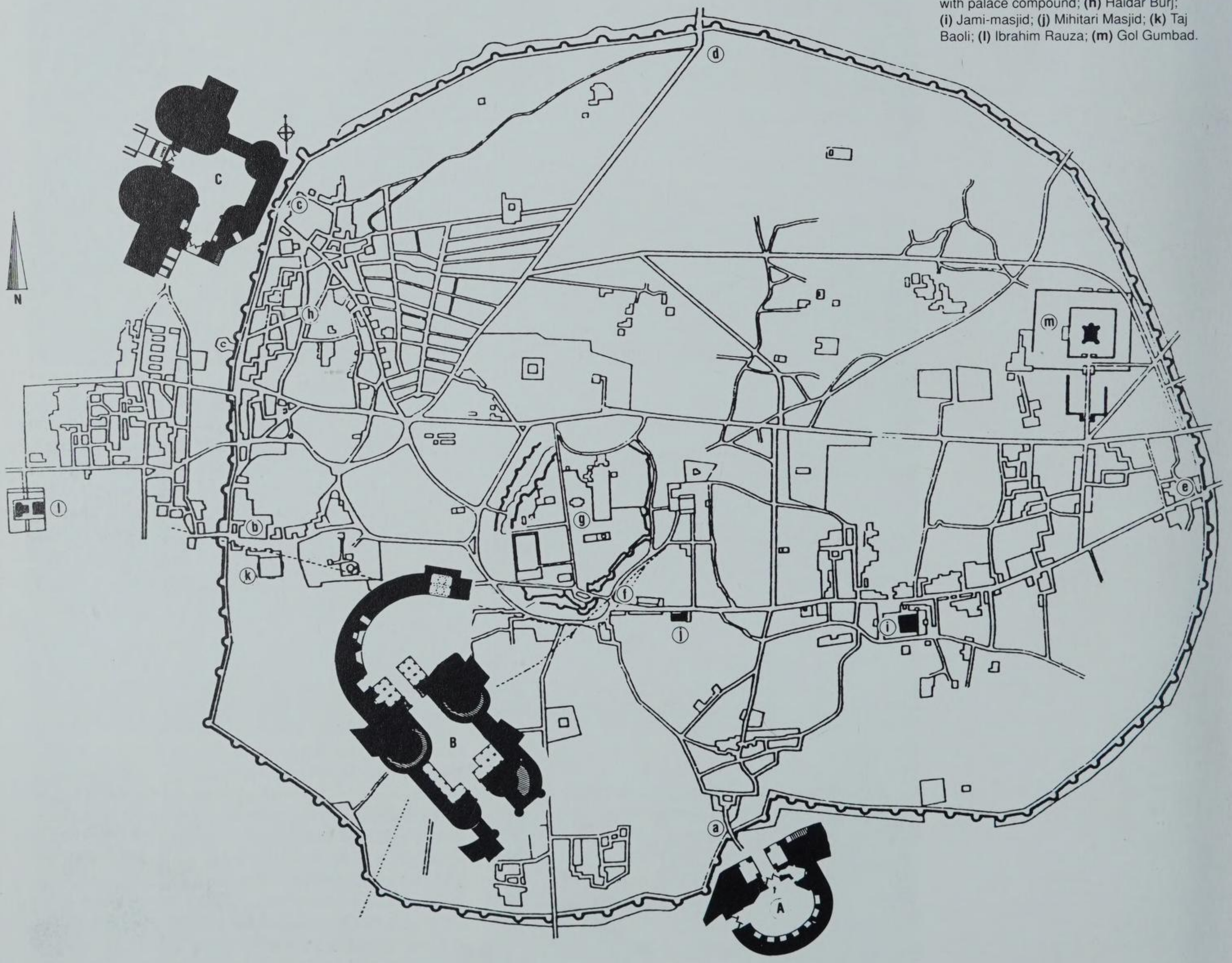


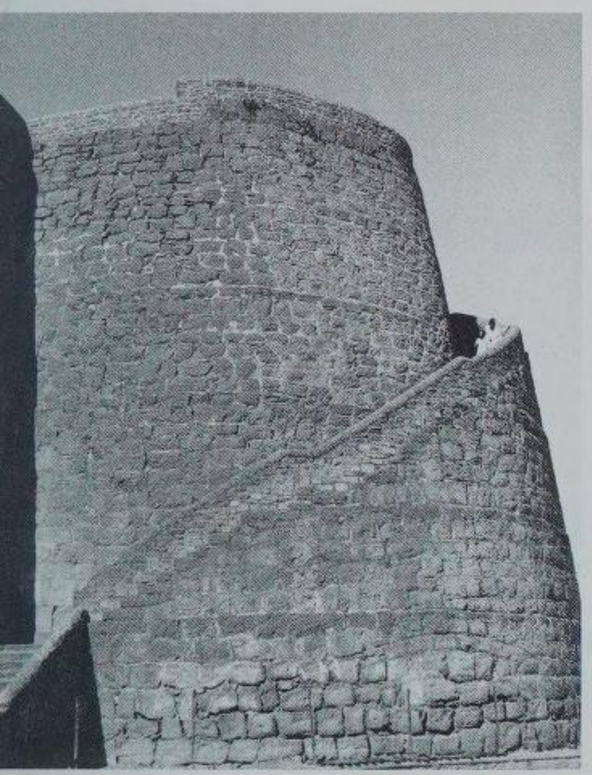
235. Hyderabad, Char Minar: mosque on upper terrace.

the most prominent are the Serzi Burj of 1658, commanding much of the western range, and the Landa Kasab commanding the range between the main southern entrances. The five main gates were all doubled, clad in iron, studded with elephant spikes and defended by twin bastions. The principal southern and eastern entrances, the Fateh and Alipur Gates had heavily guarded semi-oval barbicans forcing the approach through 90 degrees between the two sets of doors. Backing the Serzi Burj within the town and commanding a sweeping view of the western approaches is the extraordinary Haidar Burj with its spiral stairs.

The Arh Qila, towards the centre of the town, had double walls and moat. Its gate had particularly strong bastions backed by a massive spur deflecting passage through 90 degrees to a restricted opening. Hindu piers in the guard room here suggest that a part of this work at least was pre-Muslim though the Muslims doubtless quarried from temples. The major elements of the citadel, distributed in accordance with no clear plan, are rectangular blocks each with a great hall backed and overlooked by superimposed apartments on several levels. Distantly recalling the palace type represented by Timur's Shahr-i-Sabz, they more clearly echo something of Bidar's synthesis between the imported traditions of *iwan* and *talar* and the indigenous *prasada*. In the Athar Mahal, which ultimately enshrined relics of the Prophet, the hall has columns *in antis*. In the Adalat, Gagan and Anand Mahals it is a triple-arched *iwan*, the central arch low-slung as in the Jami-masjid of Gulbarga, but the timber roofs are supported internally on timber posts despite the arcades. The sultans' private apartments were superimposed behind the hall of the Anand Mahal. To the west the Gagan Mahal, with its 20-

236. Bijapur, town and fort, plan (1:20000): **(a and inset A)** Fateh Gate; **(b)** Mecca Gate; **(c and inset C)** Zohrahapur Gate; **(d)** Bahamani Gate; **(e)** Alipur Gate; **(f and inset B)** Arh Qila Gate; **(g)** Arh Qila with palace compound; **(h)** Haidar Burj; **(i)** Jami-masjid; **(j)** Mihitari Masjid; **(k)** Taj Baoli; **(l)** Ibrahim Rauza; **(m)** Gol Gumbad.



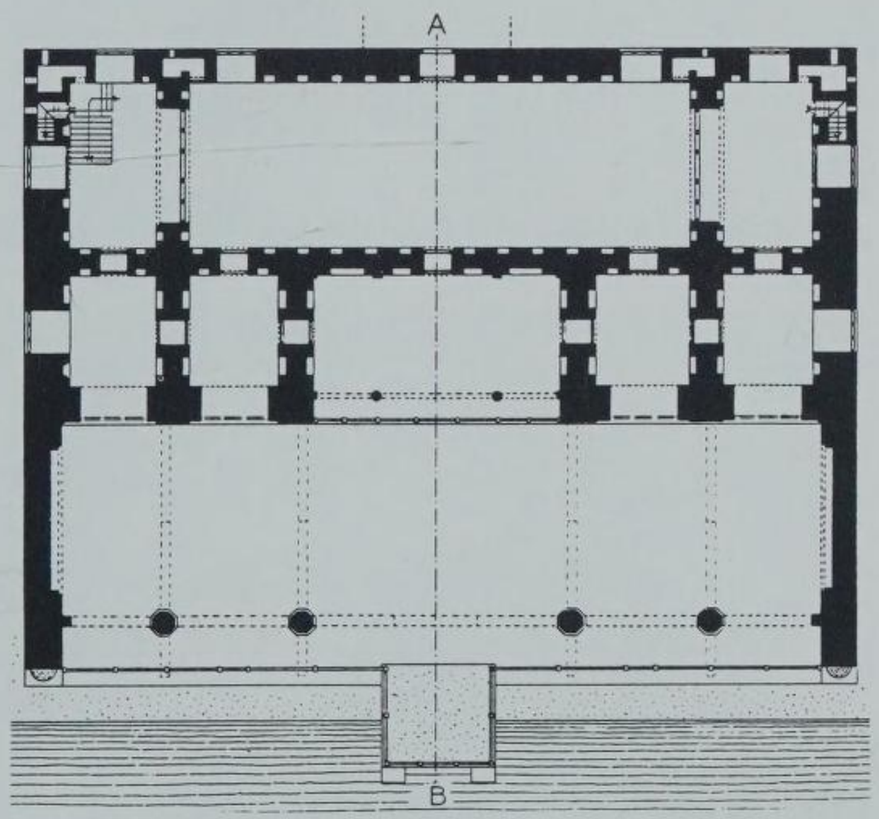


237. Bijapur, Haidar Burj.

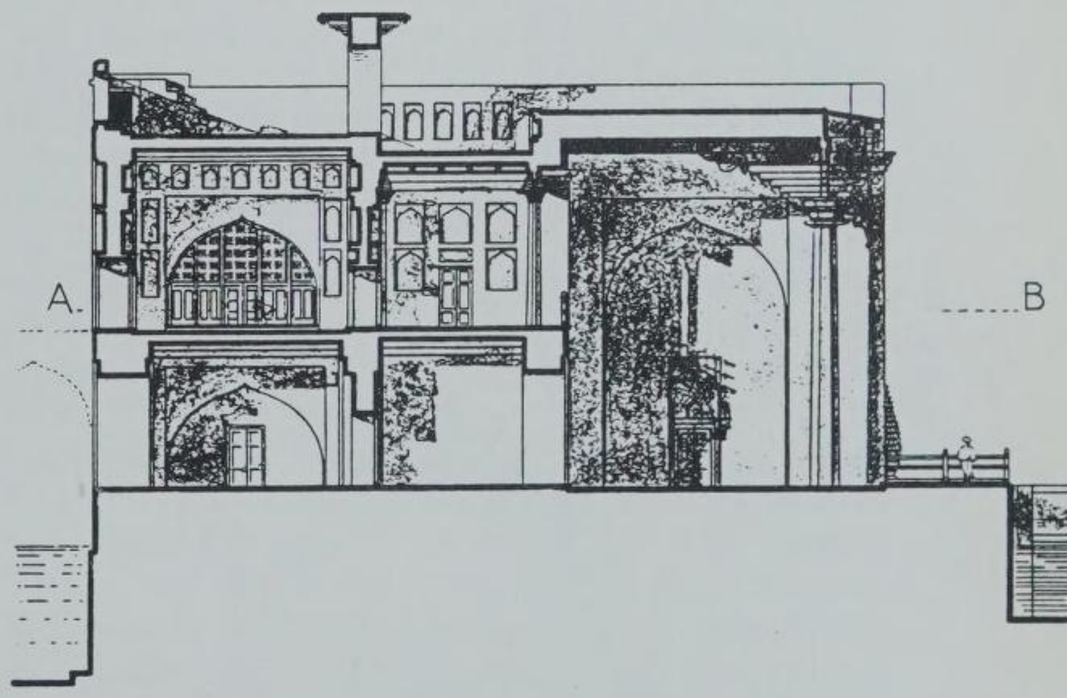
metre arch, was the hall of public audience. The Adalat Mahal housed the courts of justice. Amongst the pleasure palaces are the *prasada*-like Sat Manzil, once of seven storeys, and the long, slender, terraced Jahaz Mahal. Several small palatine mosques were built of materials from the Hindu temples of the Chalukyas and Yadavas, including Bijapur's first mosque, the Khalji Governor's Karim-ud-din Masjid.

Apart from those in the citadel, the earliest mosques founded under the Adil Shahis usually have three bay prayer halls with the simple, broad, low-sprung arches of the Gulbarga Jami-masjid. Frontispieces of the Persian type are rare but after the later Bahamani example – taken up also by the Barid Shahis – central arches are distinguished by spandrel medallions and increasingly assertive apex brackets. The Adil Shahis liked to cusp the voussoirs of their central arches, as if pre-echoing the *mihrab* within. Additional later embellishment in finely carved stone, much of it lavishly Hindu in inspiration includes prominent *chadyas* on rich corbelled brackets, filigree balustrades, elegant *chattris* and corner finial-like minarets with bands and brackets, *padma-kosha* and bud-like caps. The caps crowning the slender, decorative, shaft-like minarets applied to corners of later Adil Shahi works reflect the exaggeratedly bulbous form of dome popular especially in smaller works. From the outset, the Adil Shahis – like the Barids – favoured lattice-like patterns of interpenetrating arches of the kind the Bahamanis had imported from Persia to effect transition from square to circle or octagon in *qubbas*. Alternatively this is most spectacularly done by interlocking arches rising from squares rotated as in the star-shaped plans of later Hindu Deccani builders – as in the Jami-masjid's central *qubba*.

Emulating the Jami-masjid of Gulbarga, but on a high galleried base and more conventional in plan, Ali I's great Jami-masjid of 1565 is the dynasty's masterpiece. It has an open arcaded prayer hall whose outer bays are extended to



238 (a)



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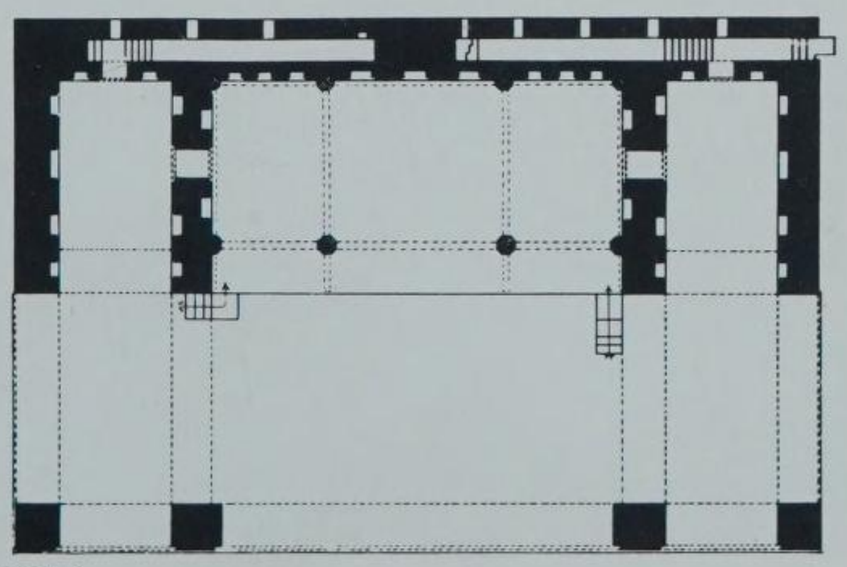


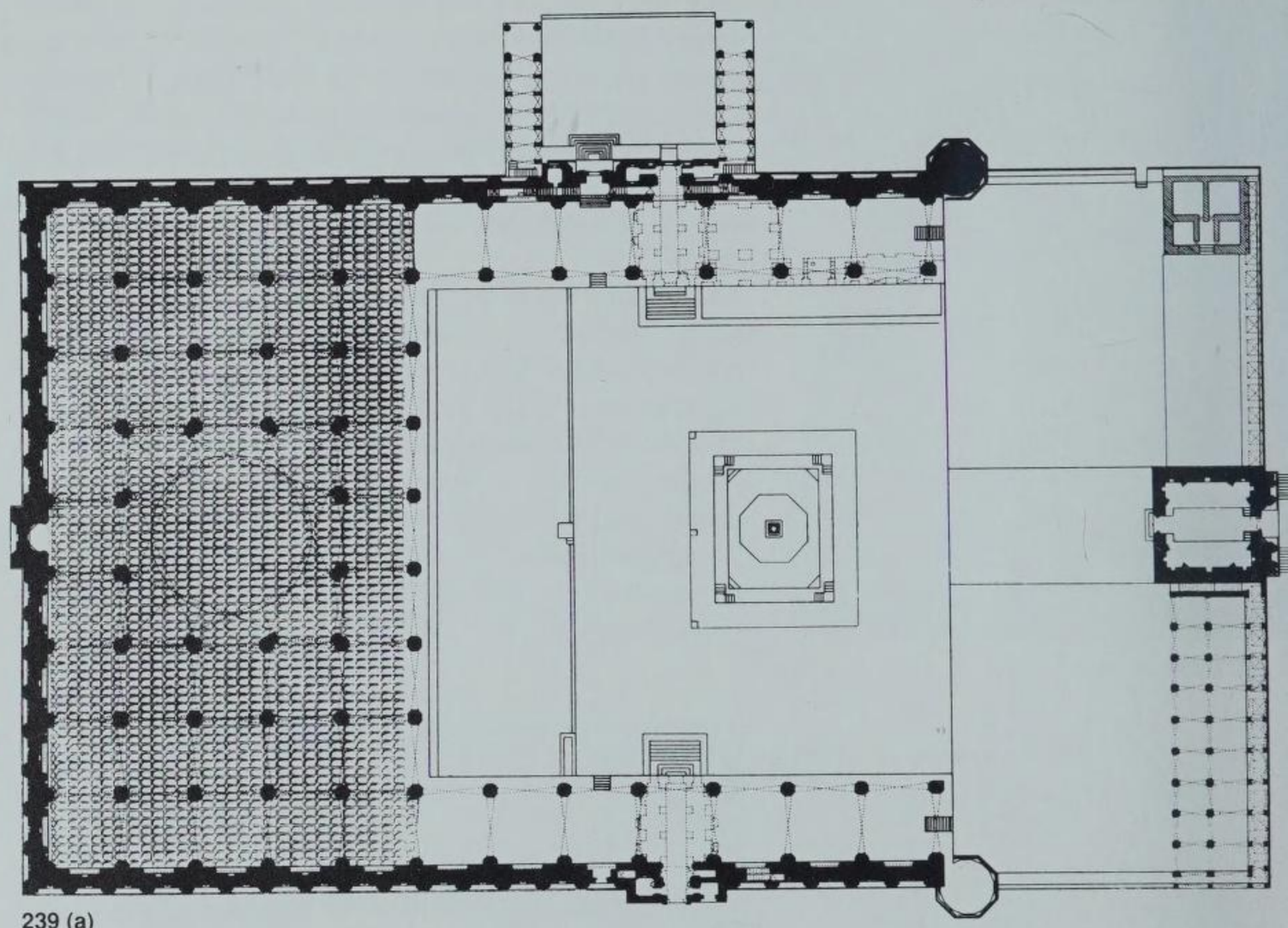
238 (c)

238 (d)

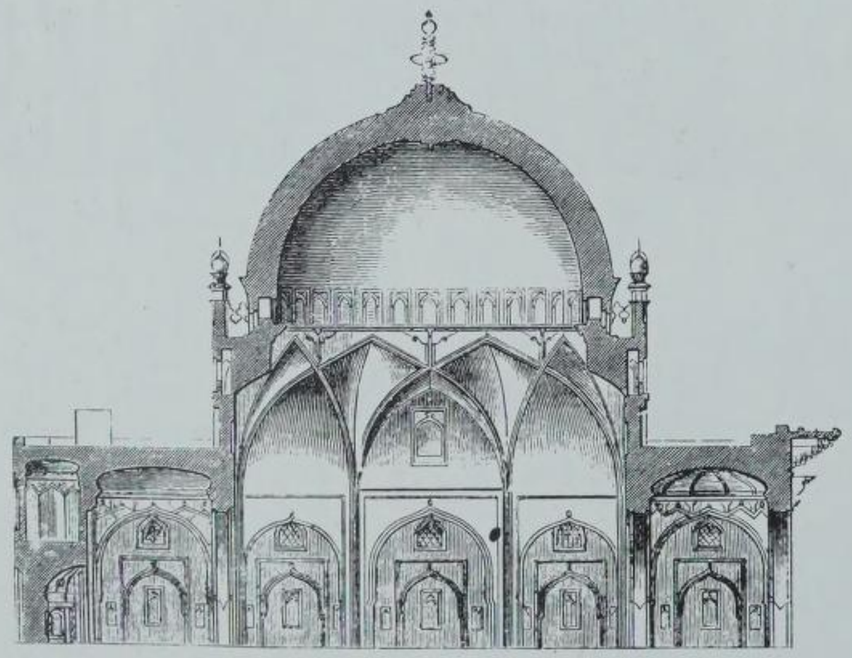
238. Bijapur, Arh Qila: **(a–b)** Athar Mahal, plan (1:500) and lateral section (after Reuther); **(c–d)** Gagan Mahal, plan (1:500), view from north-east.

define the court though the eastern range, which was to have incorporated minarets and a triumphal entrance, remained unfinished even after Aurangzeb built the portal. As was to be common Adil Shahi practice, the prayer hall facade is subjected to the assertive horizontal lines of a vigorously bracketed *chadya*. The central arch is distinguished by a cusped voussoir and spandrel medallions on bracket-like extensions to the embellishment at its apex – one of the hallmarks of the Adil Shahi style developed from the Bahamani legacy. Beyond this, the *qibla* is asserted by the great hemispherical dome on its square clerestory, the latter richly arcaded and surmounted by merlons, the former rising like a bud from petals on its arcaded clerestory. As at Gulbarga, the cool restraint of the interior derives from the repetition of simple arcades springing low from plain piers. Transition from square to octagon in the nine-bay *qubba*, is effected over rotated squares with eight interlocking arches spanning between the corresponding piers of the central bays in adjoining sides. Lattices of fragmentary arches provide the squinches in the subsidiary bays.

Amongst the many three-bay mosques of the later Adil Shahis those of Mustapha Khan and Malika Jahan Begam of the 1580s, the Anda Masjid of 1608 and the Mihitari Masjid of 1620 well represent the increasing elaboration of forms typical of the time. Mustapha Khan retained most of the

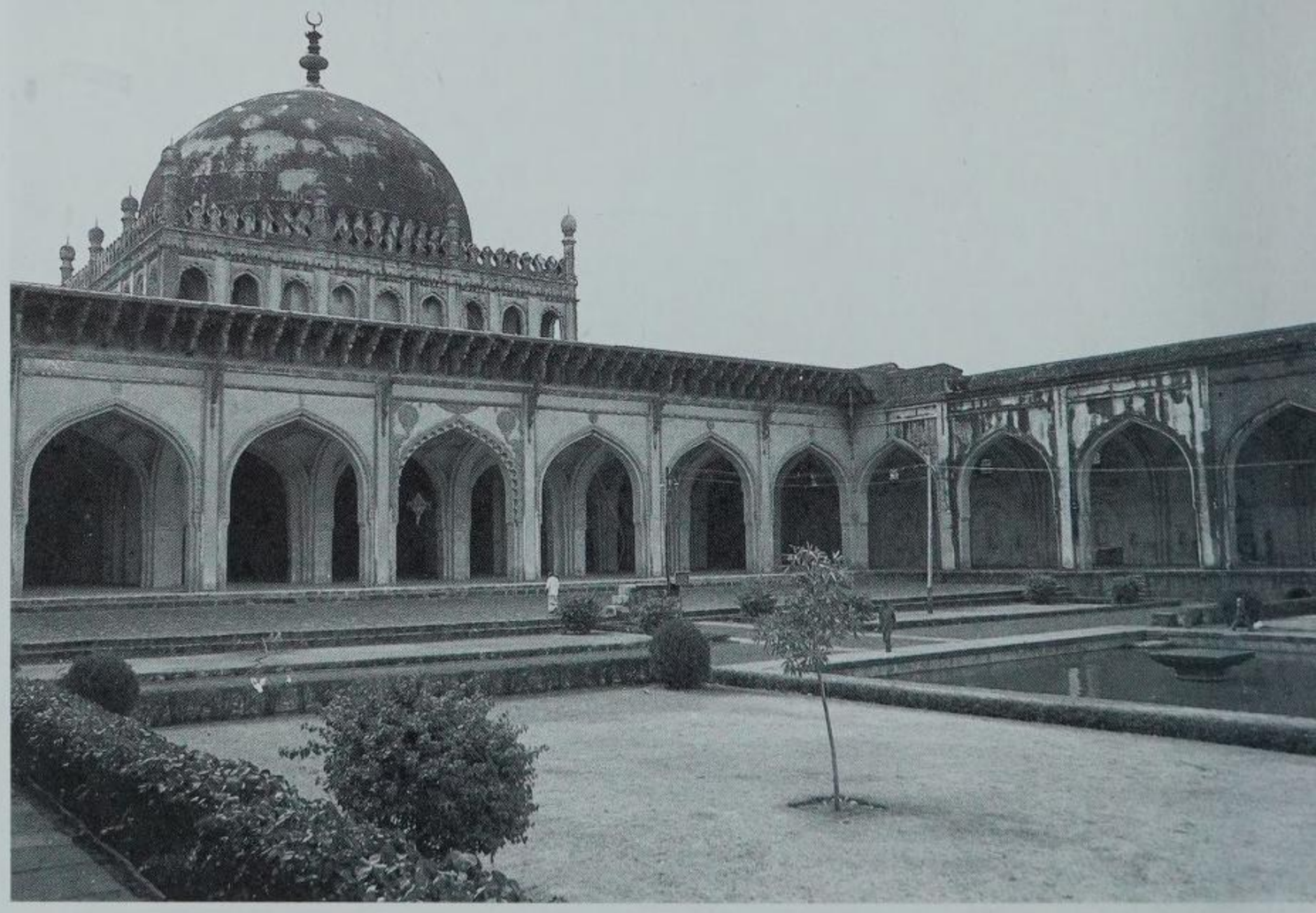


239 (a)



239 (b)

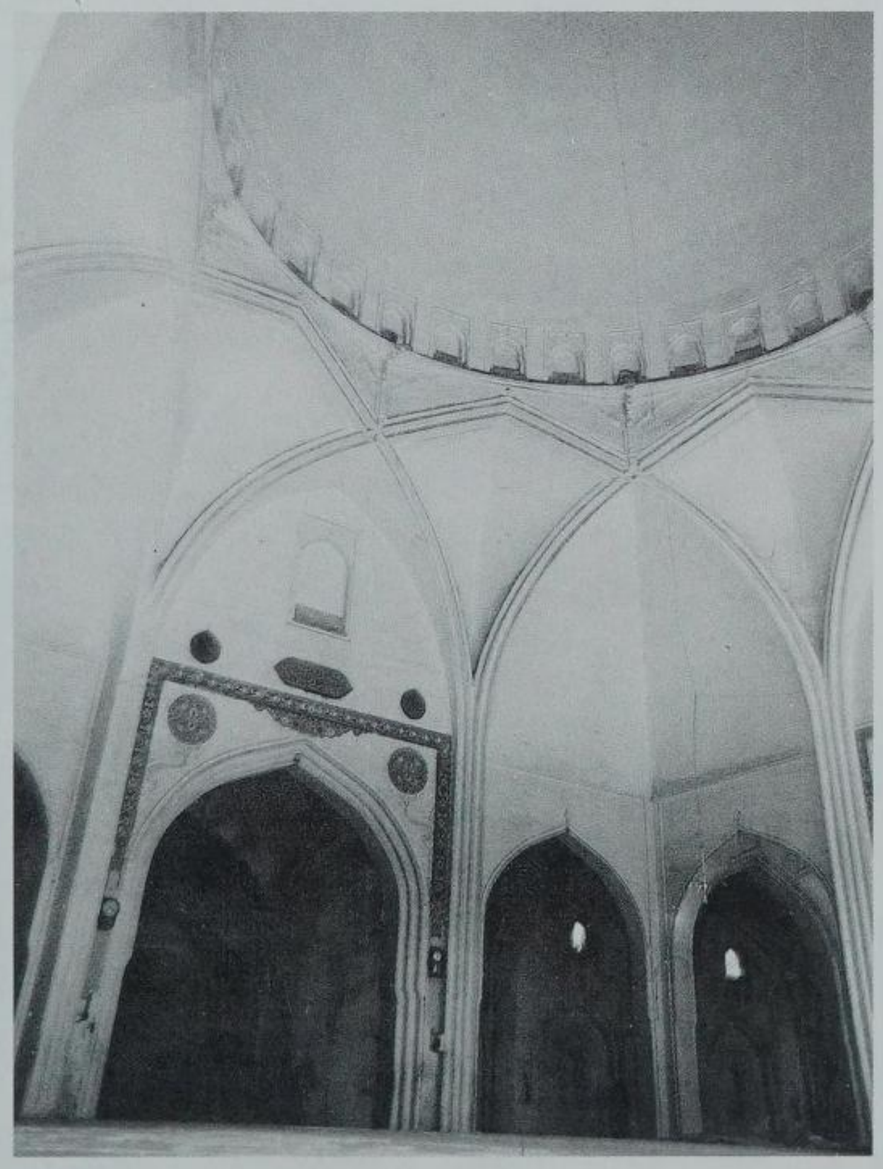
austerity of the best earlier work, indeed the great double-bay arches of the central compartment refer back to Gulbarga. On the other hand the dome, rising from longer, more closely set petals, is already semi-spherical. Slender minarets, developed from the Bahamani finial but now incomplete, appear at the corners. The recessed arches of Malika Jahan Begam's work are of equal width but cusps embellish the central one and the superstructure is altogether more



239 (c)

239. Bijapur, Jami-masjid: **(a)** plan (1:1000); **(b)** section west-east through prayer hall; **(c)** court and prayer hall from south-east; **(d)** prayer hall arcades; **(e)** *qubba* interior.

239 (d)



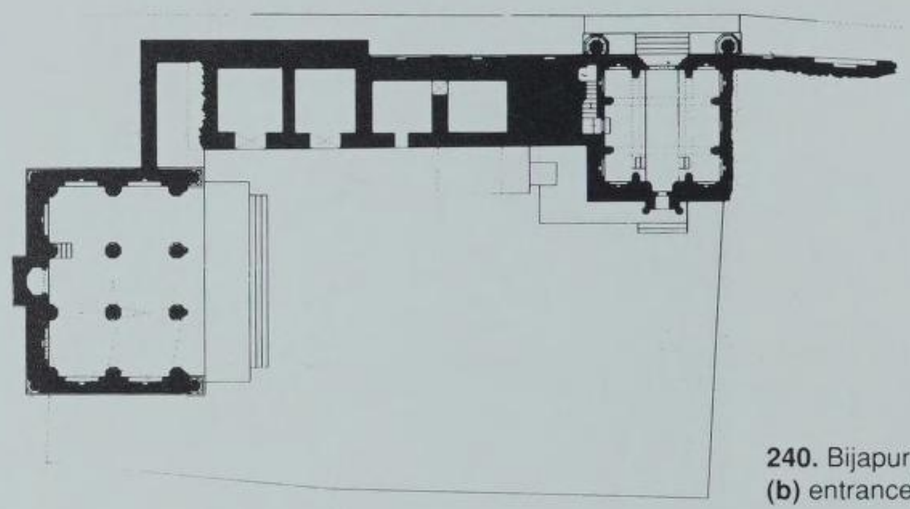
239 (e)

elaborate, with deep *chadya* on rich corbelled brackets, filigree balustrade, central *chattris* banded minarets with *padma-kosha* and spherical caps reflecting the form of the dome. The Anda Masjid is a curious two-storey structure, the upper prayer hall displaying most of the repertory of former examples but balconies are added to the minarets and cannelation to the domes. Hindu-derived embellishment is at its most lavish in the Mihitari Masjid, where the prayer hall lacks a dome. The full panoply is reserved for the distinguished double-storeyed entrance pavilion with its extremely elegant balcony sheltered by an exceptionally elaborate *chadya*. The equally rich contemporary mosque at Lakshmeshvar is celebrated in particular for the astonishing stone chains which swing from its *chadya* and minarets, rivaling the virtuoso exercises of the masons of Vijayanagara.

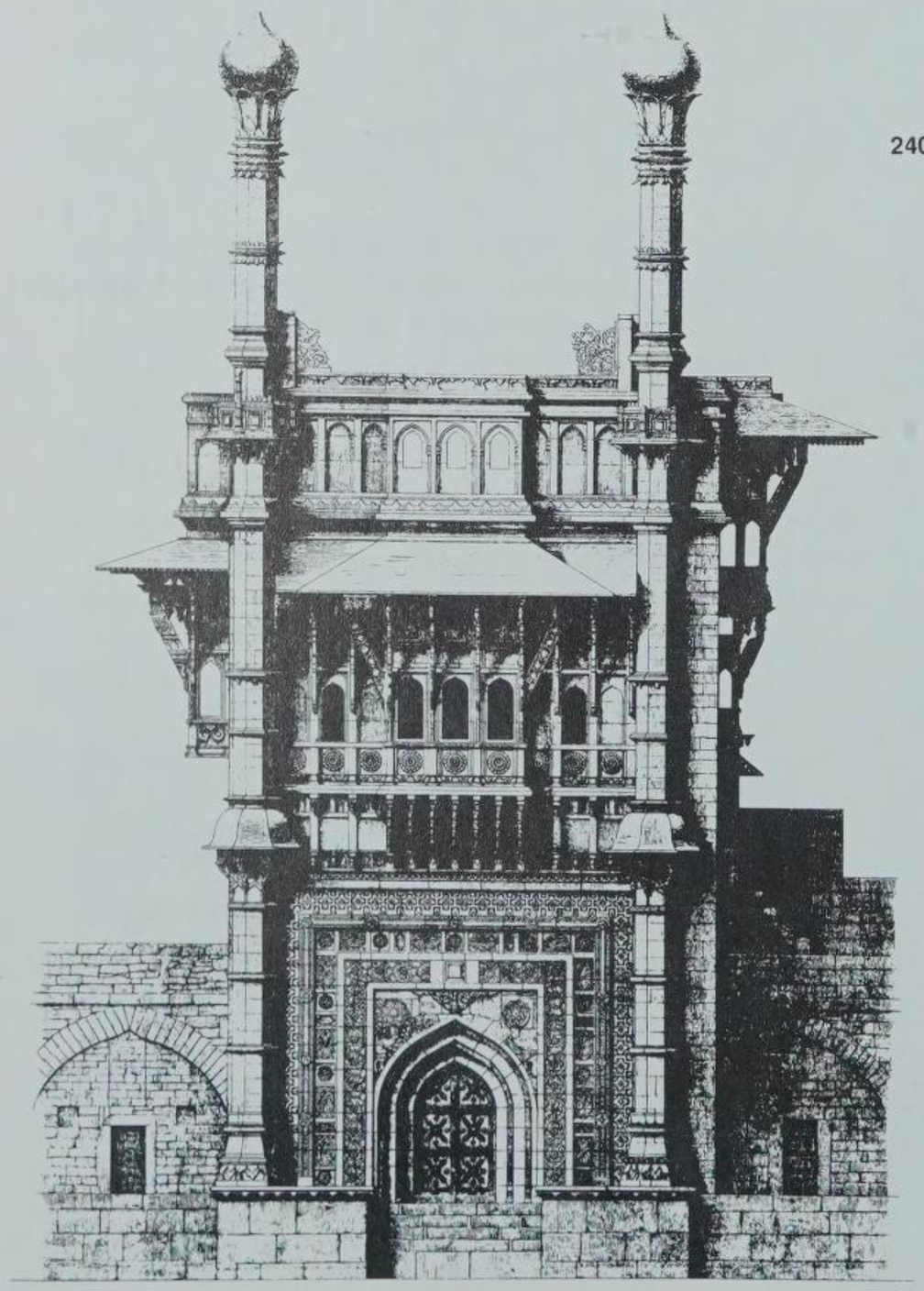
The *rauzas* founded by the rulers and high officers of state usually consist of a three- or five-bay mosque and larger mortuary pavilion with a *qubba* rising high above a lofty verandah due to the extravagant disparity between the inner and outer shell of the dome. Ali I's *rauza* is comparable in most details with the mosque of Mustapha Khan but later rulers expanded the form. The finest surving example is that of Ibrahim II just outside the Mecca Gate. Mosque and tomb confront one another over an ornamental pool on a rectangular terrace set in a *chahar bagh* with a sumptuous entrance pavilion. Though highly elaborate in decorative detail like the Mihitari and Lakshmeshvari Masjids, both main components

conform to the simple plan of Ali I but the five-bay scheme of the mosque is expanded for the mortuary pavilion by interpolating two narrow bays aligned with the sumptuously inscribed cella.

Muhammad I, seeking to surpass his predecessor but unable to conceive a richer work, resorted to grandiose scale for the so-called 'Gol Gumbad'. The foundations and the disposition of the massive internal piers in the basement suggest that the mortuary pavilion was originally to have been of the traditional type with verandah. At an early stage in the construction, this approach was abandoned in favour of a vast square chamber with walls based on the edge of the podium where the verandah arcades would have been. Constructed with astonishing daring after the example set on a smaller scale in the Jami-masjid *qubba*, eight interlocking arches effect transition from square to octagon to support a dome which rivals the largest of Europe. Between blind bays below a great *chadya*, the central *iwan* frontispieces of the west, south and east sides – there is a projection to the north – fully accord with the scale of the powerful volume. However, the seven-storey octagonal towers introduce an incongruity which is enhanced in the attempt to bind them to the main mass by continuing the sixth-storey arcades right around the building. Probably contemporary with the Gol Gumbad, the flying arch of the *dargah* of Gisu Daraz at Gulbarga emulates its scale to somewhat ludicrous effect and in the last Adil Shahi tomb, Ali II, failing to outdo his father, achieved only a vast platform supporting a forest of broken arches.



240 (a)



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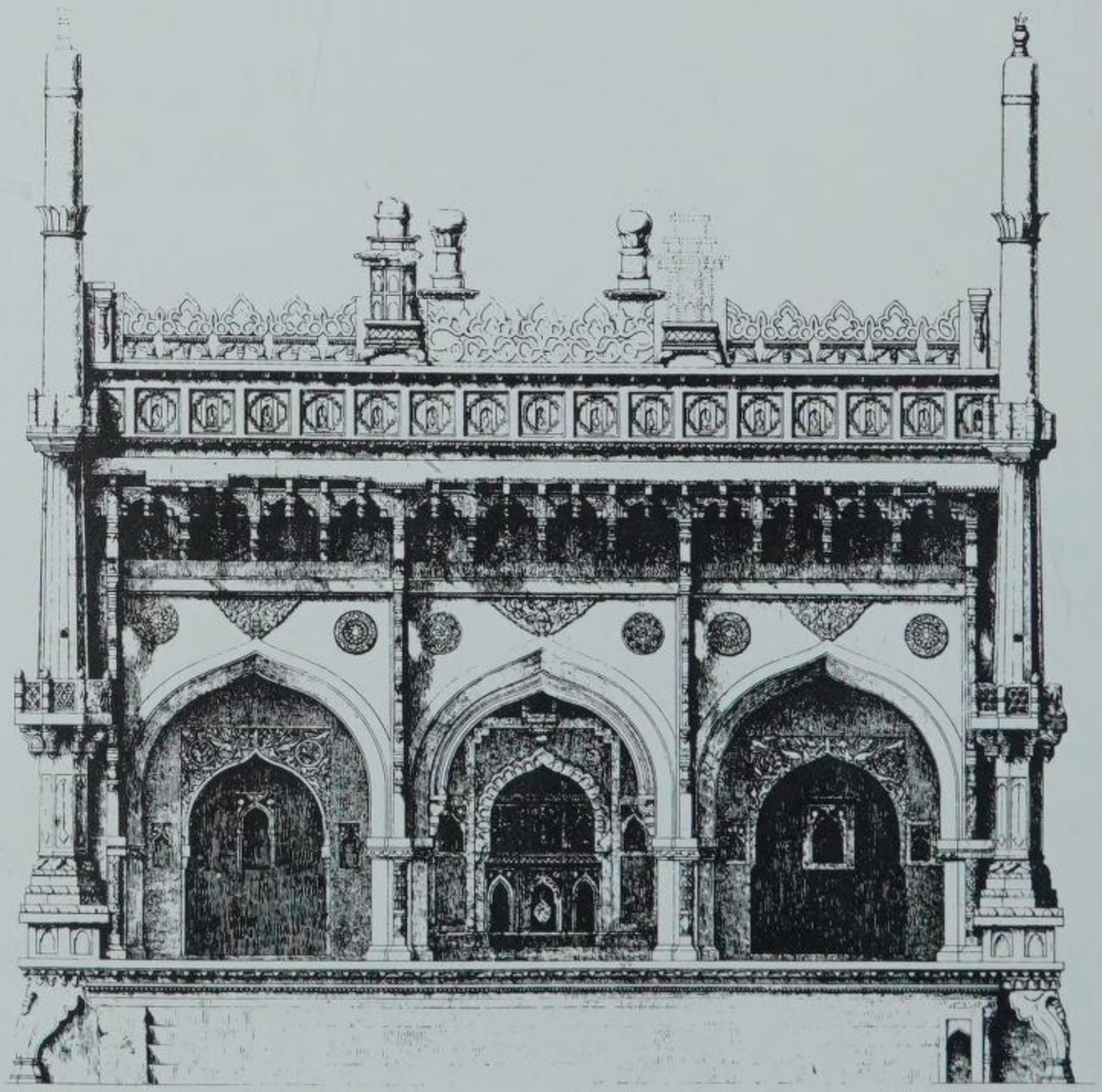
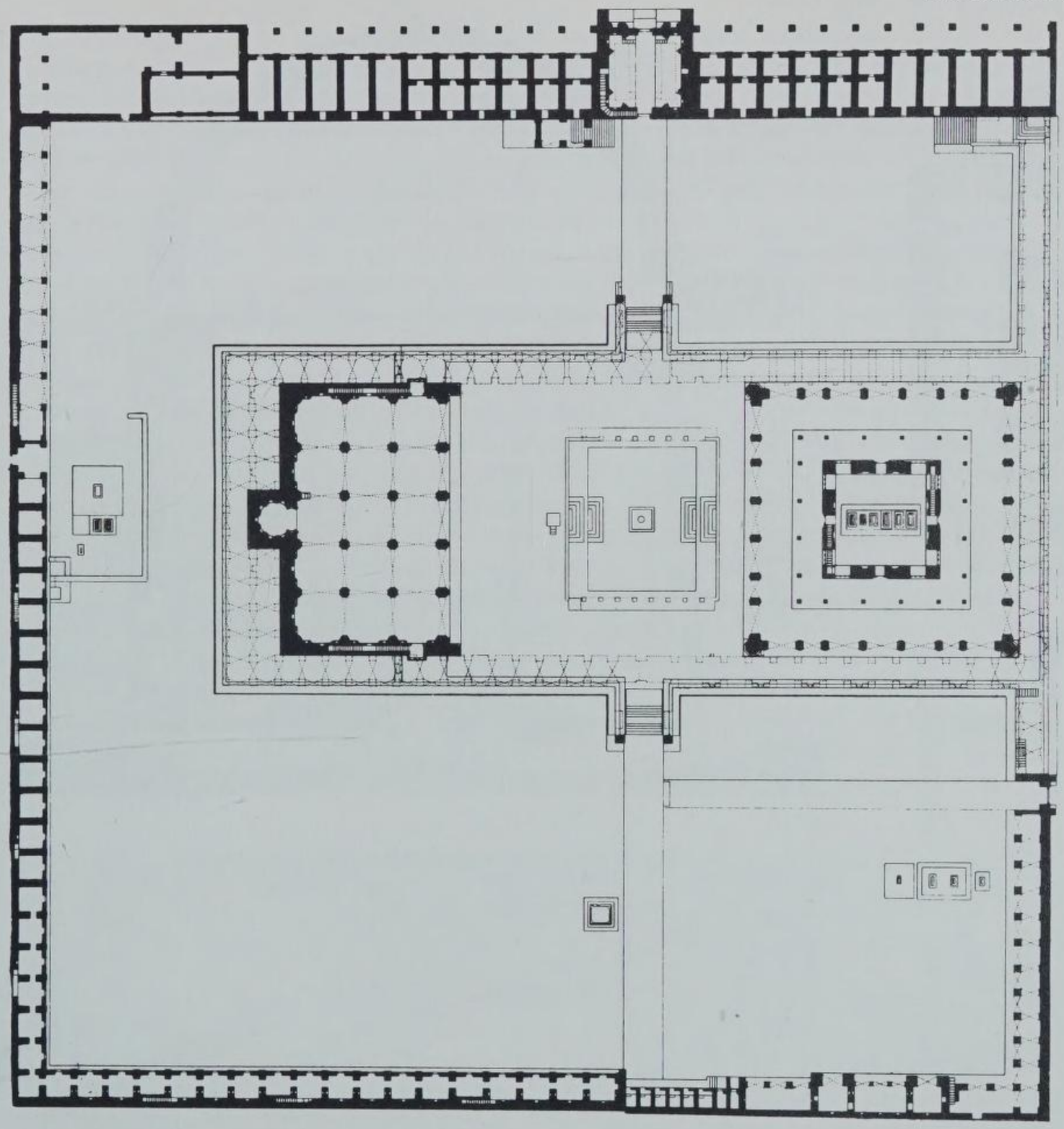


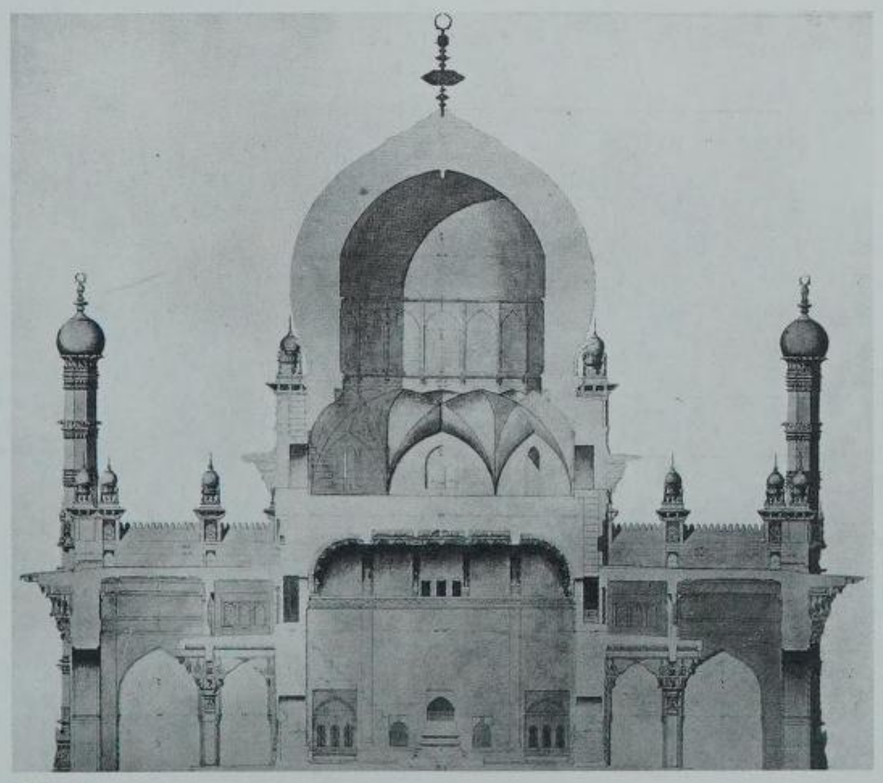
240 (c)

240. Bijapur, Mihitari Masjid: **(a)** plan (1:500); **(b)** entrance pavilion; **(c)** prayer hall .

241. Bijapur, tomb of Ibrahim II (Ibrahim Rauza): **(a)** plan (1:1000); **(b)** section north-south through tomb; **(c)** tomb.



241 (a)



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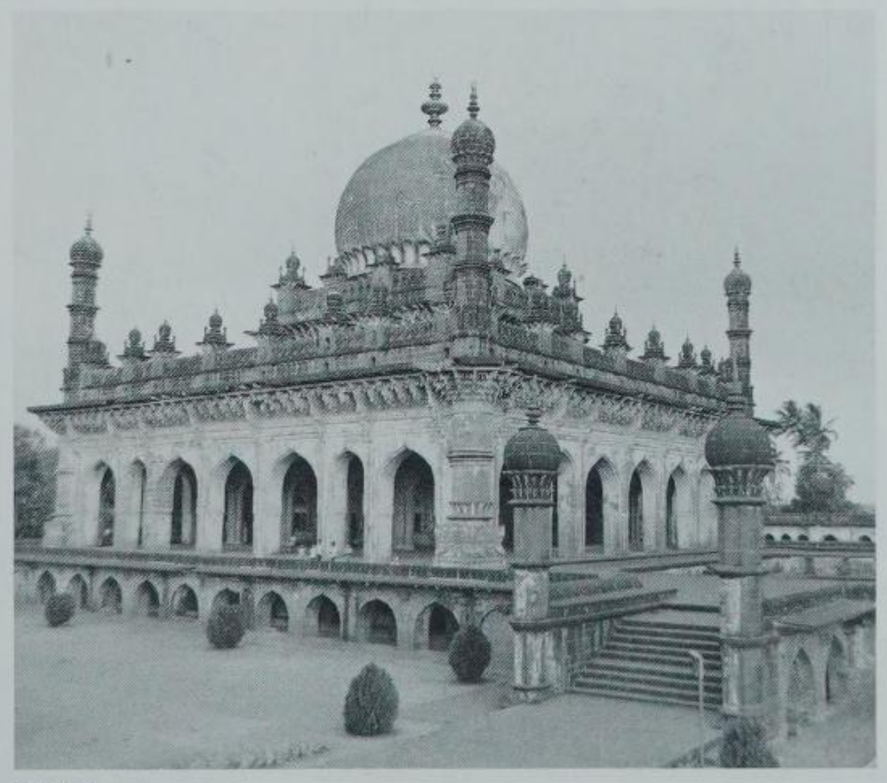

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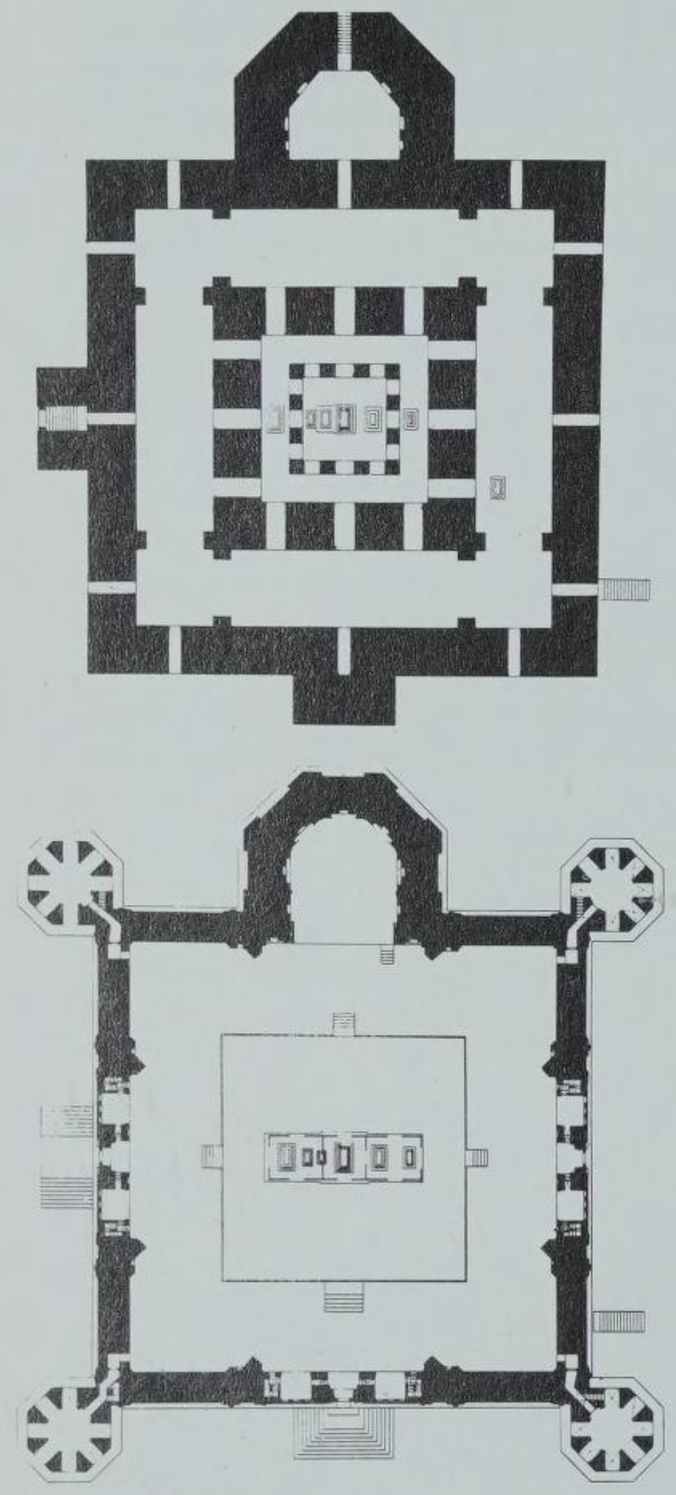
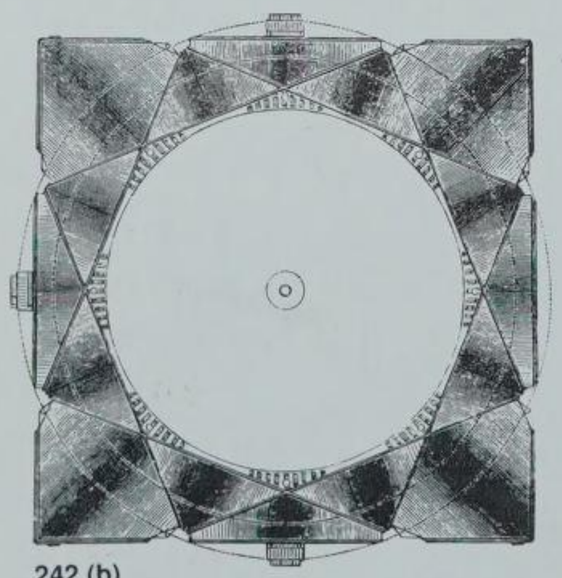


242 (a)



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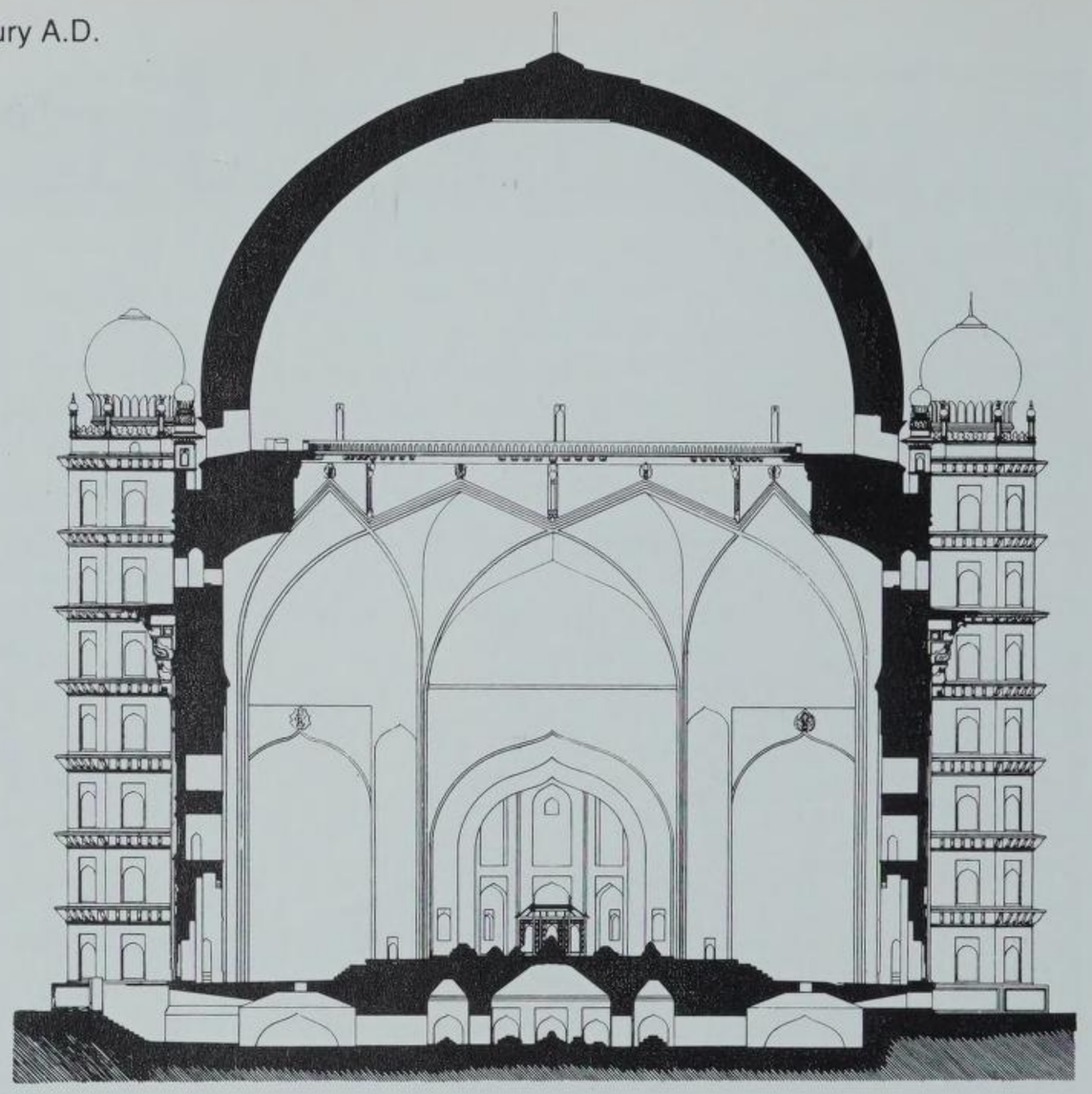

242 (c)

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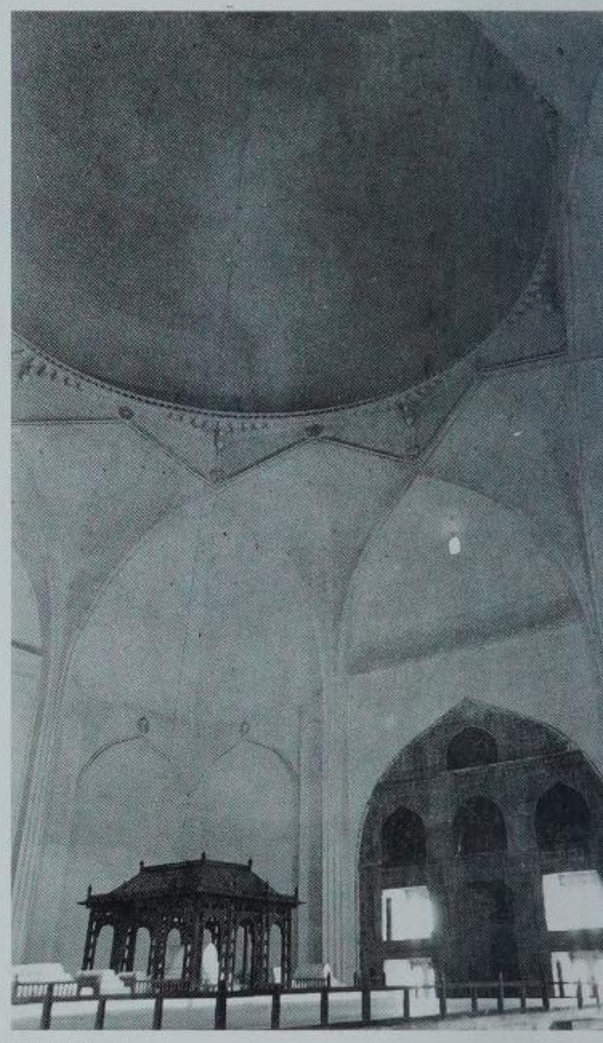
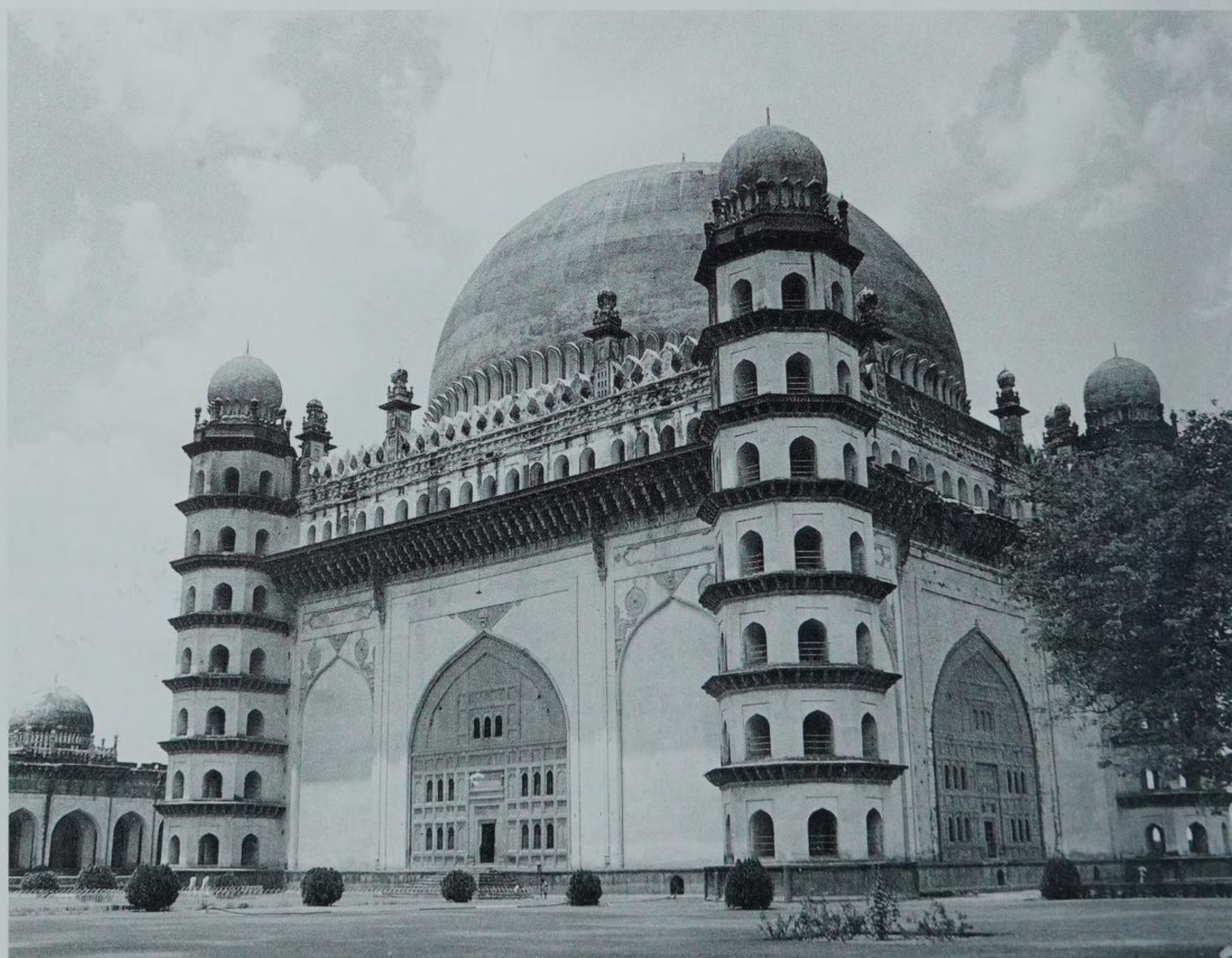


242 (e)



242. Bijapur, tomb of Muhammad I (Gol Gumbad): **(a)** plans (1:1000) of crypt and cenotaph levels; **(b)** vault diagram; **(c)** west-east section; **(d)** from south-east; **(e)** main tomb chamber.

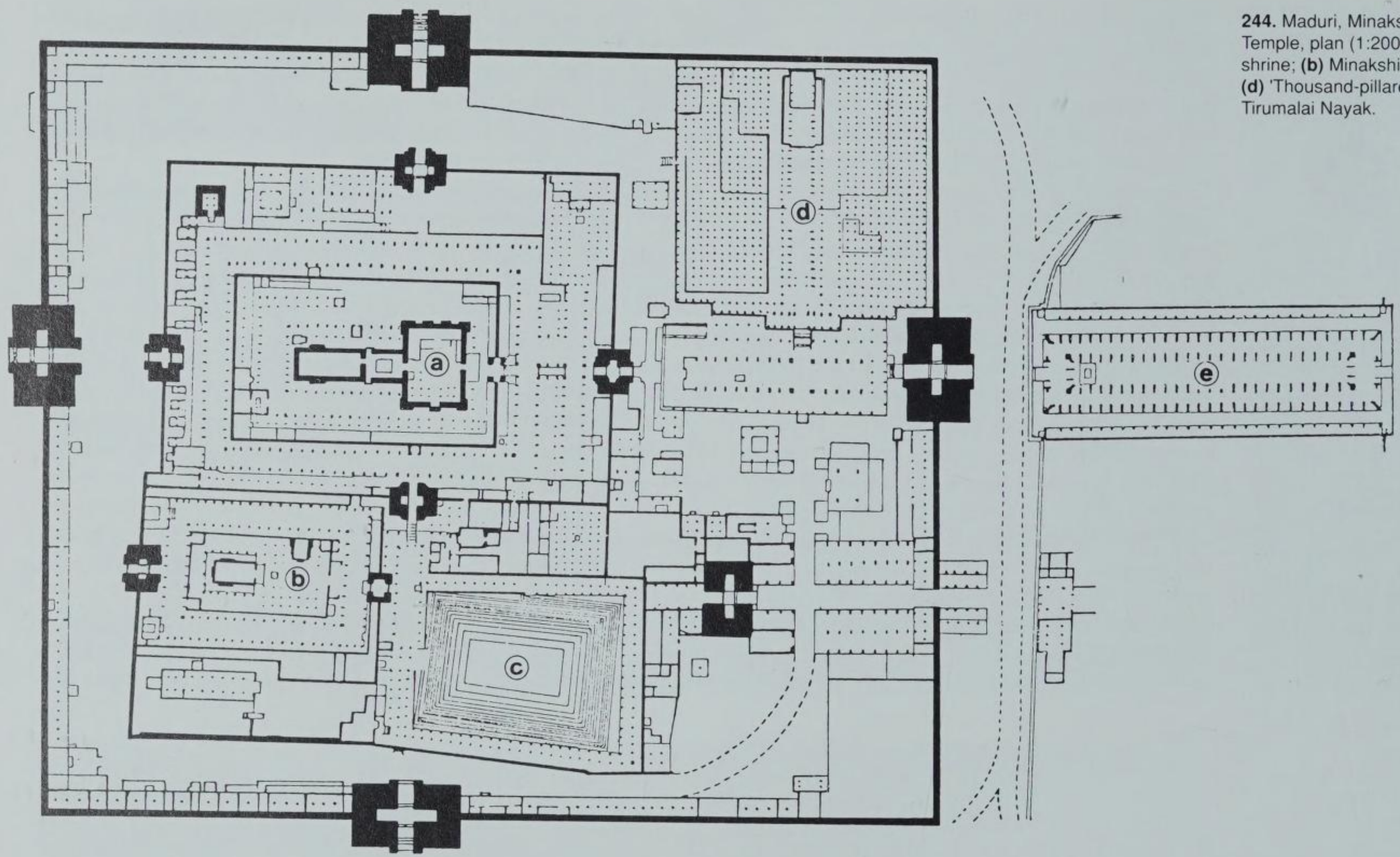
Vijayanagara and the Hindu Kingdoms of the South

Beyond the Deccan to the south-east, the revived Pandya successors to the Cholas succumbed to Muslim pressure in the mid-14th century but the kings of Vijayanagara halted Muslim expansion and were responsible for the last significant development of the Hindu tradition over the next two centuries. They established their capital, the 'City of Victory', on the upper reaches of the Tungabhadra where it controlled the main route to the south, and the seats of their provincial governors (Nayakas) in great forts at Vellore, Gingee, Tanjavur, Madurai and Ikkeri. After the defeat of the central power in 1565 the Nayakas asserted their independence.

Patronage of new foundations had flagged following the last extravagant exertions of the Cholas, and the Pandyas were active in little more than additions to existing sanctuaries. On a much greater scale, their increasingly affluent Vijayanagaran and Nayakan successors found that if a venerable shrine was not susceptible to aggrandisement its environment was. Krishna Deva Raya (1509-30) was a patron of legendary munificence but many rulers vied with one another in acquiring merit through the provision of additional compounds with ever more dominant, if increasingly less architectonic, *gopuras*, and a wide range of facilities to meet the community's needs. Thus the original shrine was ringed by enclosure after enclosure, each embracing secondary shrines and extraordinary pillared halls for regular rituals, periodic festivals and occasional cultural performances, accommodation for attendant *brahmins*, sect *gurus* and a wide range of temple servants, and dormitories, refectories and infirmaries for pilgrims.

Of the many great complexes which were evolved over the centuries between the decline of the Cholas and modern times, in addition to the great shrines we have already encountered at Chidambaram, Kumbakonam, and Tiruvarur, the two great temples on Shrirangam island near Tiruchirappalli, the Shri-Ranganatha and Jambukeshvara, the Arunachaleshvara at Tiruvannamalai may be singled out. The Kanchi Ekambareshvaranatha, the Shiva temple at Tirukalikundram, the Virupaksha (locally called Pampapati), *28* Vitthala and Ramachandra at Vijayanagara, may be taken as representative of predominantly Vijayanagaran works. The contribution of the Nayakas is well illustrated in the Ramanatha at Rameshvaram, the Perialvar at Shrivilliputtur and the great Minakshi-Sundareshvara of Madurai. Most of these have at least four enclosures in which the main elements are related to one another with varying degrees of regularity. One of the smallest is the Vijayanagara palatine temple of Ramachandra popularly called 'Hazara Rama', with one *30(a)*

243. Madurai, early-19th century aquatint with temple right and palace left.



244. Maduri, Minakshi-Sundareshvara Temple, plan (1:2000): **(a)** Sundareshvara shrine; **(b)** Minakshi shrine; **(c)** tank; **(d)** 'Thousand-pillared hall'; **(e)** Chaultri of Tirumalai Nayak.

enclosure incorporating the separate Amman compound – the outer face of the wall, unusually, bearing reliefs of figures in royal ceremonial procession. By far the largest is the
29 Shrirangam Ranganatha with the canonical seven enclosures, the three outer ones primarily commercial and residential.[29]

The most characteristic contribution of the later dynasties was a vast hypostyle pavilion, often a royal reception hall. While the main temple hall and Nandi pavilion may be on axis with the principal shrine, others were provided for *ad hoc* in existing or specially built enclosures. In addition to *mandapas*, great galleries surround interior courts and link them to other major elements in the complex, the ablution tank in particular.

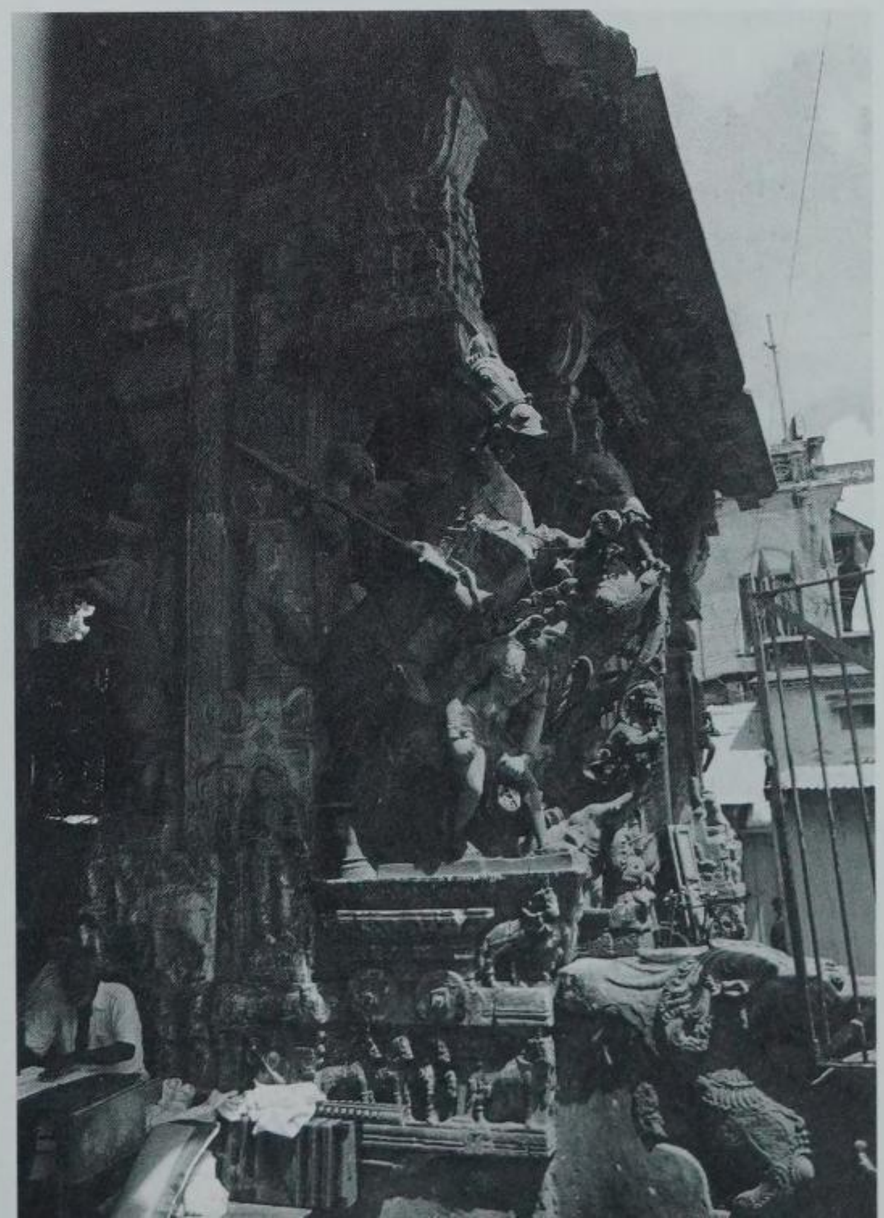
In these works, socles incorporate further embellishment of the elements inherited from the late Cholas, especially in the Vijayanagaran period when the ribbing or serrating of mouldings proliferated. The Pandyas continued to use the Chola type of column in all its essentials, modifying the capital to incorporate a thinner, wider, sometimes polygonal abacus, a scalloped and elegantly lipped echinus, a bud-shaped pendant to the central tenon of the corbel. A *purna-kalasha* base was given to the pillar forms invariably found in recessed bays. The Vijayanagaran builders, who worked mainly in hard stone, were heirs to the Chalukyas as well as the Cholas and Pandyas, and they further elaborated and refined these forms. Their column or pier, infinitely adjustable in its proportions for strength or grace, ultimately had multi-faceted blocks chased in low relief between square ones with high relief *apsaras*, or other symbolic motifs, and pendant buds at the corners. They produced a still more foliate petalled echinus and gave their corbels a double flexed arm projecting from the main block and terminating in a convoluted bud with petals. Their *kapotas* are thinner but more prominently projecting, with a double curve and intricate imitation in stone of wooden ribs. Above all, they delighted in attaching highly involved sculpture groups, usually including rampant beasts, armed horsemen or portraits of kings and other patrons to the shafts of multi-faceted piers, often in conjunction with superimposed shrine motifs or clustered colonettes.

The 15th-century pavilions of the outer enclosure of the Jambukeshvara, the great series of 16th-century pavilions in the Vitthala Temple at Hampi and the Ekambareshvaranatha at Kanchi, the 17th-century 'Horse Mandapa' at Shrirangam or the 'Thousand-pillared hall' and Chaultri of Tirumalai Nayak at Madurai, well represent the main epochs.

245 (a)

245. Madurai, Minakshi-Sundareshvara Temple: **(a)** from southern *gopura*; **(b)** tank and eastern *gopuras*; **(c)** Chaultri of Tirumalai Nayak.

245 (b)



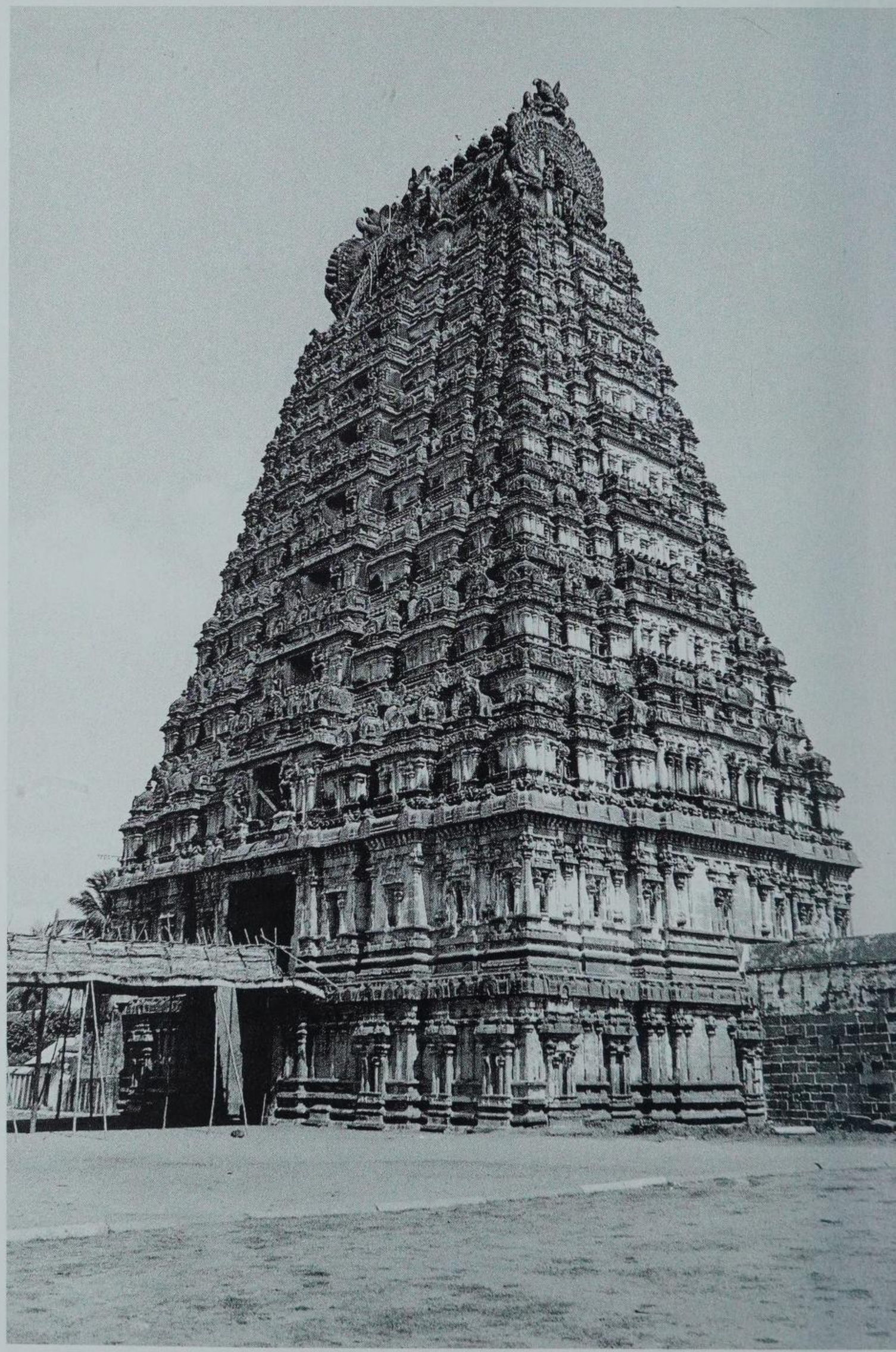
245 (c)

246 (a)

Outstanding examples are to be found in the galleries of the
30(b) Rameshvaram Ramanatha and the Jambukeshvara. At the crossing in the latter, is a great square hall defined by four massive piers before the main shrine chamber.

The *gopura* – which emerged in early Pallavan works and attained a certain monumentality in the great Chola Brihadeshvara temples – became the most prominent feature of the southern temple-city. Under the later Cholas, as we have seen, it began to overshadow the *vimana*, dominating not merely the temple complex but the entire surrounding countryside – as at Chidambaram and the Jambukeshvara. As in the Chola prototype, the first two storeys are generally of stone, the second continuing in the plane of the first. The superstructure, in diminishing tiers of plastered brick, was at first essentially architectonic in articulation, like the *vimana*. Obscured in later Vijayanagaran works, under the Nayakas this was totally eclipsed by profuse figure sculpture and the profile was given an elegant concave curve. Of the many fine Vijayanagaran examples remarkable for their great size, called '*Raya gopuras*' after Krishna Deva Raya, the eleven-storey outer one of the Ekambareshvaranatha at Kanchi may be taken as representative of architectonic conservatism. The stupendous series of twenty-one *gopuras* at Shrirangam span the whole period and, had the latest been completed, they would have risen to some 30 metres. As it is, the tallest is the 17th-century work at Shrivilliputtur. The culmination of the florid concave Nayaka variety is resoundingly achieved in the four of the outer enclosure at Madurai.

Engulfed by halls and eclipsed by *gopuras*, the *vimana* had long ceased to be a focus of major interest in the great southern complexes. Its transition from the essentially architectonic to the florid is well marked by the Devi shrine at Gangaikondacholapuram, the Parvati Temple at Chidambaram and the Subrahmanya at Tanjavur which date



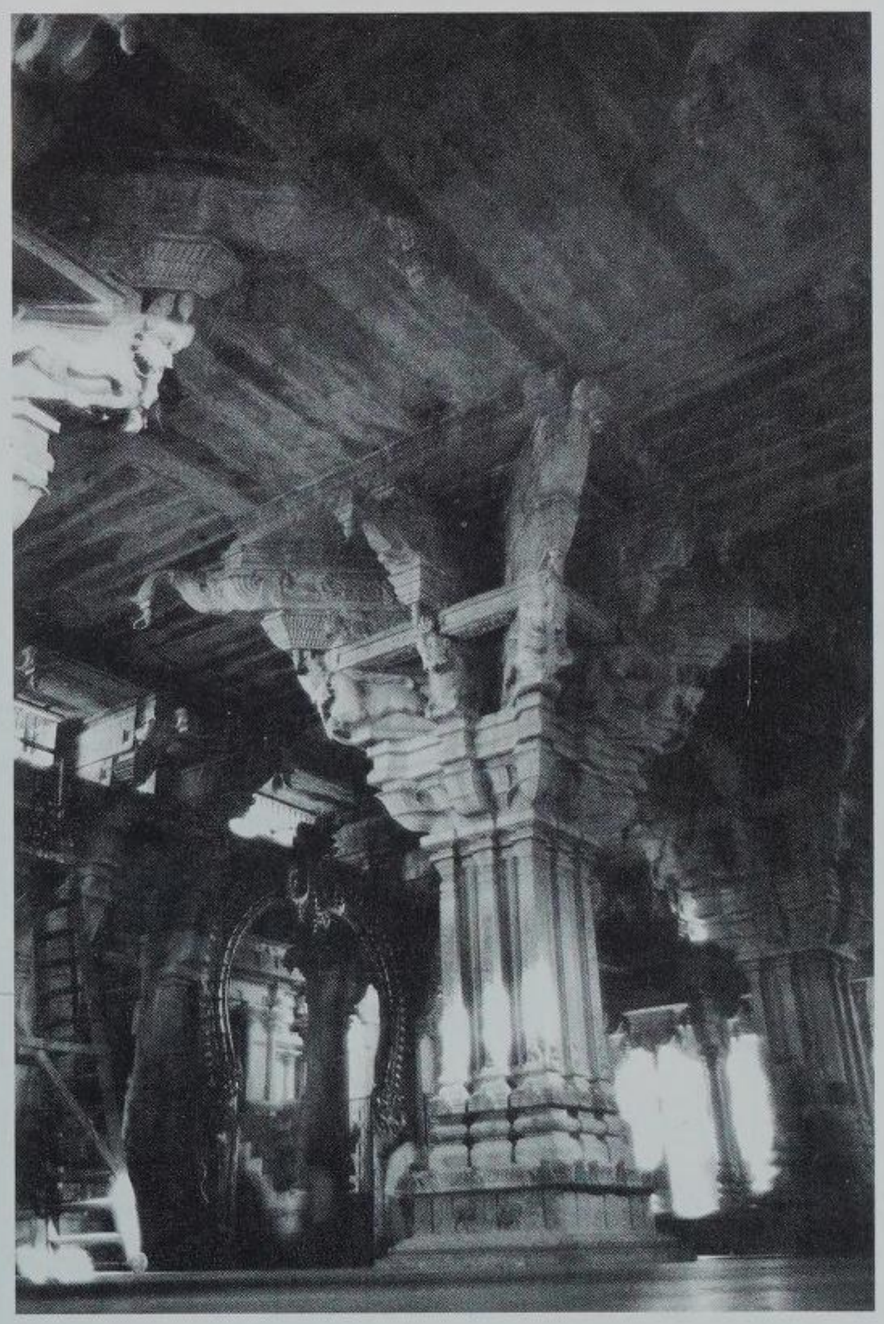
246 (b)

246. Kanchi, Ekambareshvaranatha Temple: **(a)** *kalyana-mandapa*; **(b)** *'Raya-gopura'* of Krishna Deva Raya.

247. Shrirangam, Jambukeshvara Temple: great pier at gallery crossing before sanctum.

248. Shrirangam, Shri-Ranganatha Temple from south.

249. Shringeri, Vidyashankara Temple: *vimana*.



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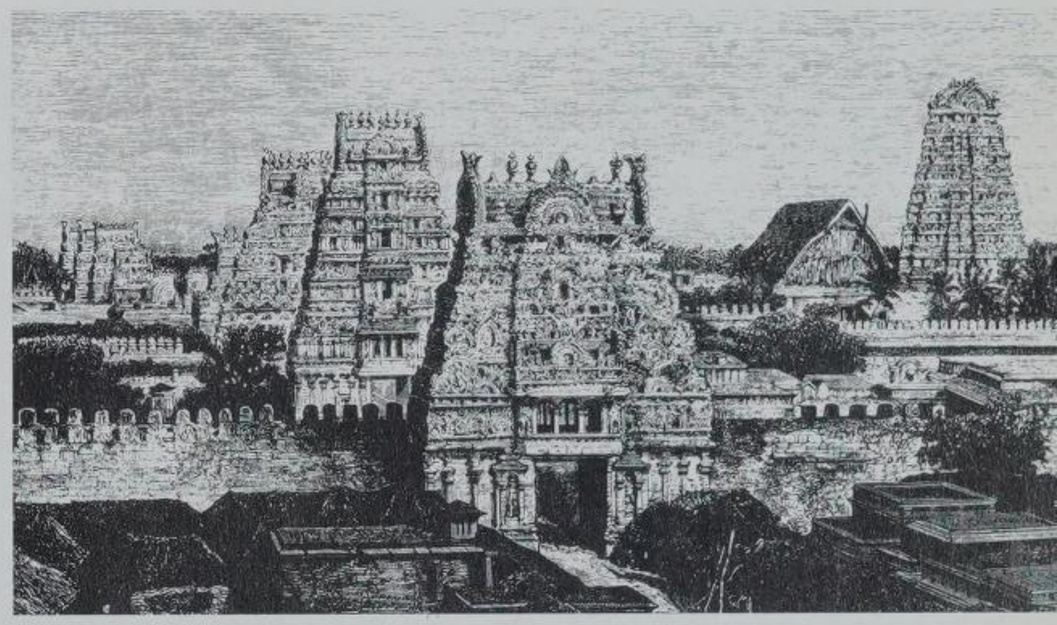

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respectively from the 11th, 14th and 17th centuries. At Hampi at least, Vijayanagaran builders, if working predominantly in the style inherited from the Cholas and Pandyas, also refer back to the Chalukyan and Kadamban traditions and occasionally they produced striking hybrid forms. Outstanding is the Vidyashankara at Shringeri. The five storey *vimana*, with Hoysala base and walls, has multiple frieze and *kapota* mouldings and a *shikhara* over a serrated neck. Its aedicules contain Shaivite, Vaishnavite, Shakti, Buddhist and Jaina icons. Syncretism was evidently important to the founders of Vijayanagara, two of whom reigned as Hari-Hara, and the main cross axis of their palace enclosures linked the two principal dynastic shrines – the Shaivite Virupaksha and the Vaishnavite Ramachandra. The synthesis of all the strands of native Indian theism at Shringeri was highly unorthodox: it clearly presented a united front to encroaching Islam – with which the dynasty was perennially preoccupied.[30]

Vijayanagara reached its apogee under Krishna Deva Raya, who gained the upper hand over the disintegrating Bahamani empire, and his successor Achyuta Deva Raya

(1530-1542) sustained the magnificence. The arrogance of their successors provoked its destruction in 1565 by the forces of the Bahamanis' successors: the ruins they left after sacking the city for five months cover 25 square kilometres of the fantastic, rugged, boulder-strewn landscape.[31]

Of its ring walls – reputedly seven – little more survives than the inner curtain of the central royal complex which itself attracted the major depredations. However, the four main temples – and many others – still dominate the roughly crescent-shaped tract of land hemmed in by the rocky hills between this wall and the river's tortuous course. To the west, the Hemakuta hill – whose agglomeration of shrines includes some of the oldest Chalukyan ones – separates the site's most venerable temple, the Virupaksha (Pampapati), from the Krishna foundation of Krishna Deva. To the east – and unusually facing north – is the Venkateshvara of Achyuta Deva. To the north-east is the Vitthala, also largely due to Krishna Deva. All four addressed impressive avenues along which the temple cars (*rathas*) were hauled at festivals and, indeed, one of the most celebrated features of the Vitthala is a life-size model of a *ratha* on axis with its eastern *gopura* and the processional way beyond. These avenues are now under cultivation but the best impression is given by the one before Achyuta Deva's temple, the so-called 'Sulai Bazaar', 31(a) which retains much of its colonnades. At the Pampapati, Hampi Bazaar is now overwhelmed with shops.

The walls of the royal complex follow the tortuous contours between the outcrops of rock, incorporating them in the defences. Most of the surviving gates are simple trabeated structures, sometimes with elaboration to the corbels, but some have arches and even domes – Vijayanagara employed Muslim mercenaries and dynastic rivalry obviously did not prevent Vijayanagaran engineers from availing themselves of sound structure and varied form. In distinct compounds towards the western end of the main *enceinte*, the emperor's palace, ceremonial court and *zenana* are grouped roughly in accordance with *shastra* principles about perpendicular axes orientated to the cardinal points with the exquisite Ramachandra palatine temple at their crossing.

Of rich but perishable materials, the palace also conformed to ancient principle. Within the ceremonial court are two monumental platforms. The largest one, called the King's Audience Hall, was a great hypostyle hall with ten rows of ten timber columns – clearly a *raja-bhavana* in the most venerable tradition. Even more magnificent, the other tiered base is usually identified as the 'Throne Platform' (Mahanavami Dibba) from which the emperor reviewed the principal dynastic cult festival (Mahanavami) whose processions and ceremonies are depicted in its splendid reliefs. To the west of the ceremonial court, beyond the north-south axis of the site, are several compounds which probably constituted both the emperor's private quarters and the *zenana*. Each contains the stepped and terraced basement of a free-standing building, clearly related to the typical temple in plan. The remains indicate that these were multi-storey trabeated structures in stone and timber, partitioned with brick and plaster, preceded by a court or hall. The *prasadas* of the *raja-nivesana,* they doubtless took the ancient prototype of palace and temple – the 'Palace of the Gods' – to the apogee of secular splendour.

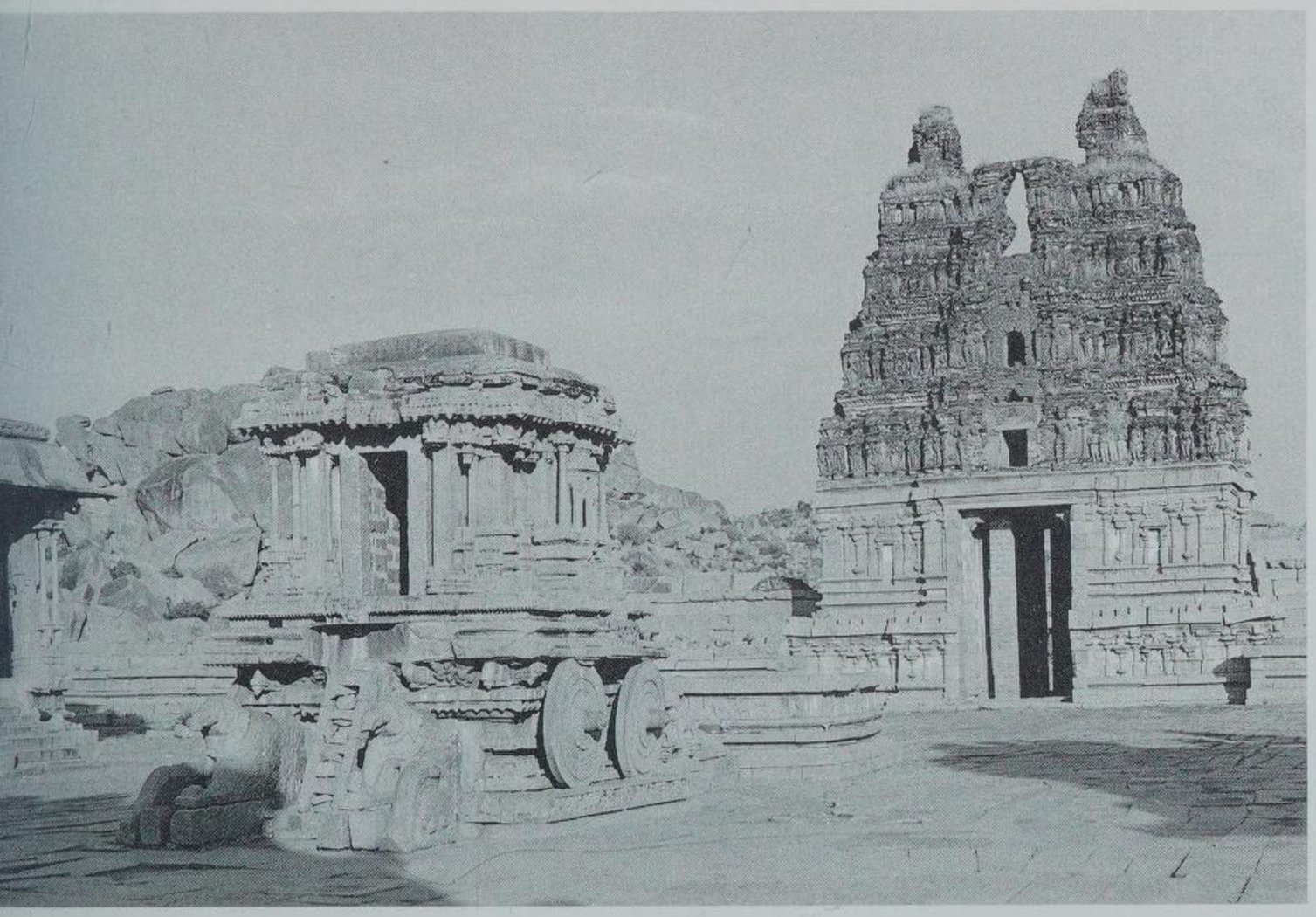
North of the ceremonial enclosure is a relatively isolated compound, particularly well walled and guarded by the most impressive towers of the entire site. Enigmatically, it contains the largest of the *prasada* basements and the celebrated 'Lotus Mahal' – an elegant *hawa-mahal* like a nine-square temple *mandapa* with cruciform projections, in plan, crowned with varied conical *shikharas* but arcaded in the florid Qutb Shahi style. Equally eclectic, if less florid and more

250. Vijayanagara, site plan (1:50000): **(a)** imperial ceremonial enclosure; **(b–c)** emperor's private quarters (so-called 'Mint' and 'Danaik's Enclosure'); **(d)** Hazara Rama; **(e)** enclosure with Lotus Mahal (so-called *zenana*); **(f)** elephant stables; **(g)** Achyuta Deva Raya's Temple; **(h)** Sulai Bazaar; **(i)** Hampi Bazaar; **(j)** Virupaksha ('Pampapati') Temple; **(k)** Krishna Temple; **(l)** Vitthala Temple.

251. Vijayanagara, Vitthala Temple: *ratha.*

252. Vijayanagara, imperial ceremonial compound: 'Throne Platform'.

253. Vijayanagara, northern palace compound, plan (1:2000): **(a)** main *prasada* base; **(b)** 'Lotus Mahal'; **(c)** so-called 'guard-chamber'.



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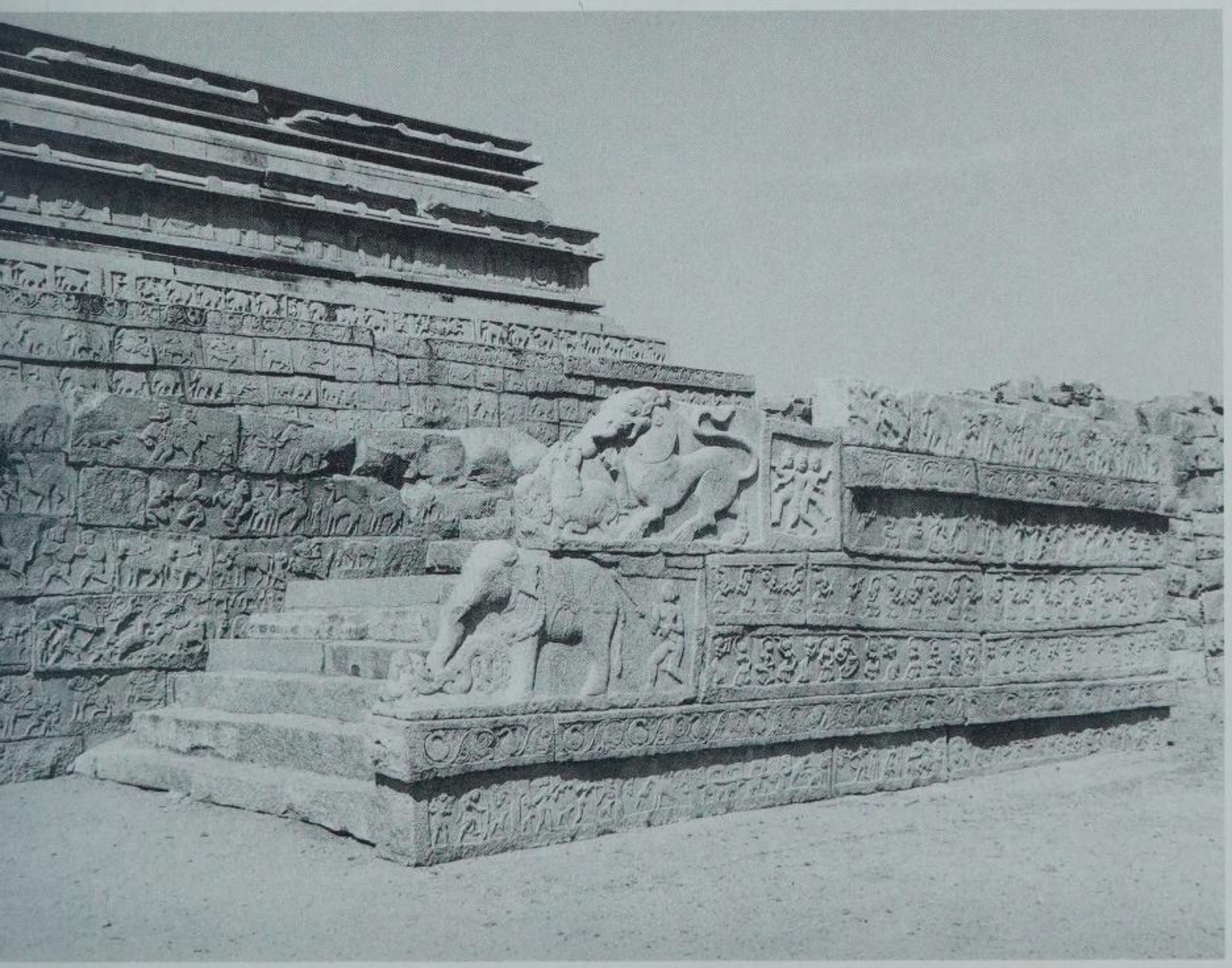

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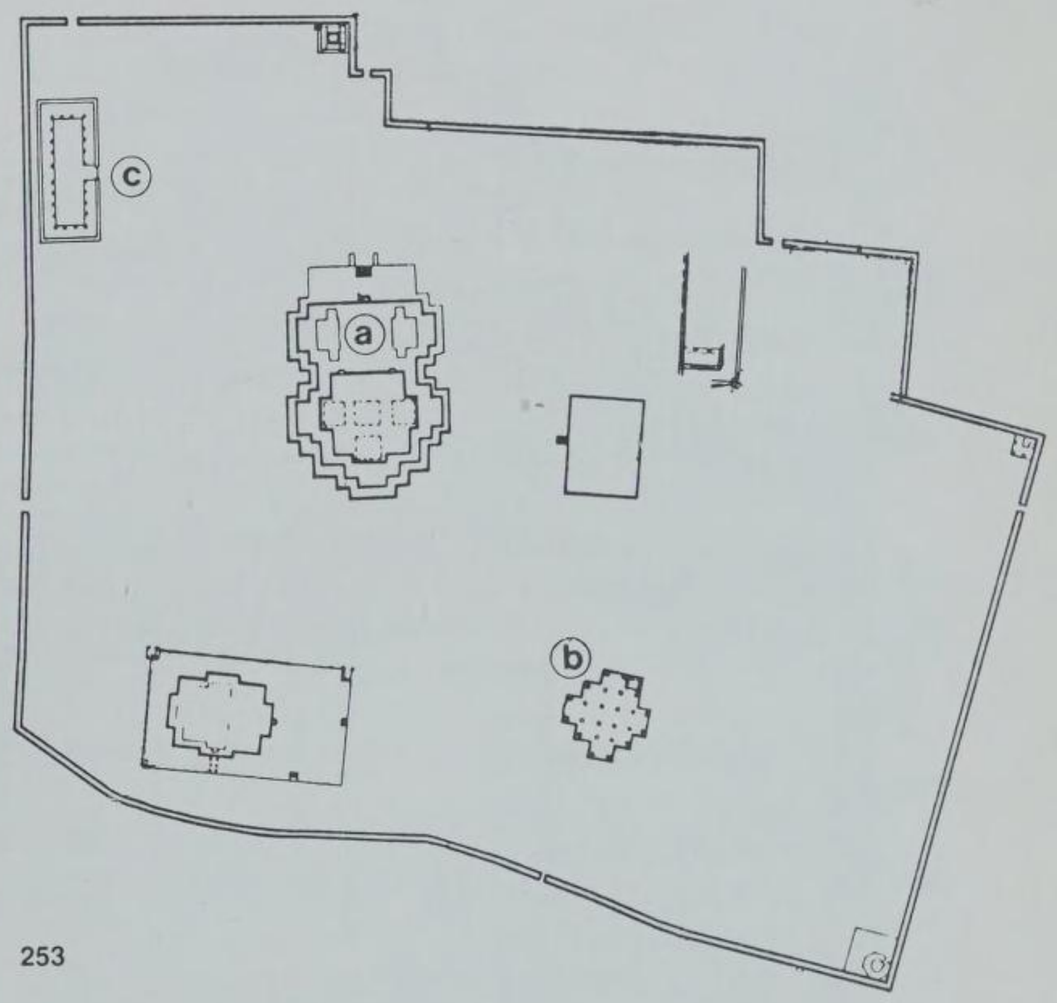

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monumental, are the eleven-bay 'Elephant Stables' and 'Guard House' to the east of this compound, and the so-called 'Queens' Bath' to the south-east of the ceremonial enclosure, one of the most impressive legacies of the water-works for which Vijayanagara is renowned.[32] *31(b)*

Perhaps the most significant surviving product of late Vijayanagaran eclecticism is the palace in the fort at Chandragiri, the refuge of the last ruler of Vijayanagara after the disaster of 1565. Its indigenous ancestry is masked by the arcaded wings but the central square tower block, with its superimposed pillared halls culminating in an extraordinay *vimana*, is clearly a *prasada*. Beyond it, the continuity of the ancient tradition is nowhere more clearly shown than in the later, coarser palace of the Nayaka of Tanjavur. *31(c)*

On the other side of the peninsular, at Padmanabhapuram, that same tradition has a finer, regional variant in the magnificent palace of the maharajas of Travancore. Reputedly 15th-century in origin, its present form dates largely from the reign of Maharaja Marthanda Varma in the mid-18th century. Attempts to relate it to *shastra* principles are problematical, as usual with surviving Indian secular works, but it has most of the statutory constituent elements: apart from the ruler's private apartments and the *zenana* – the latter both on upper floors – these include varied facilities for public ceremonial, a mint, an armoury, picture or manuscript gallery, a dance hall and, of course, temples. The principal peculiarity of the palace, the relative isolation of the *raja-nivesana*, derives

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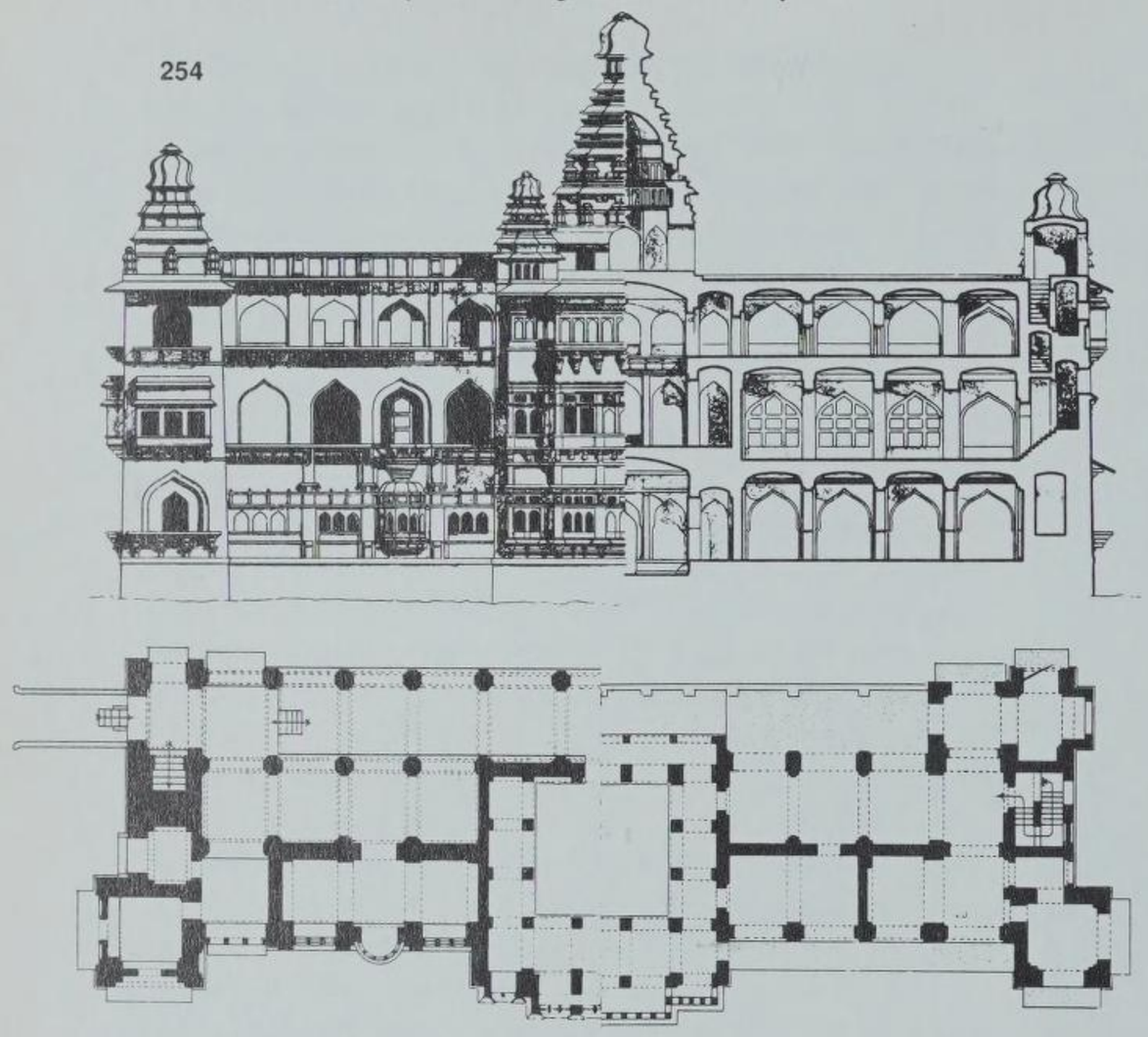

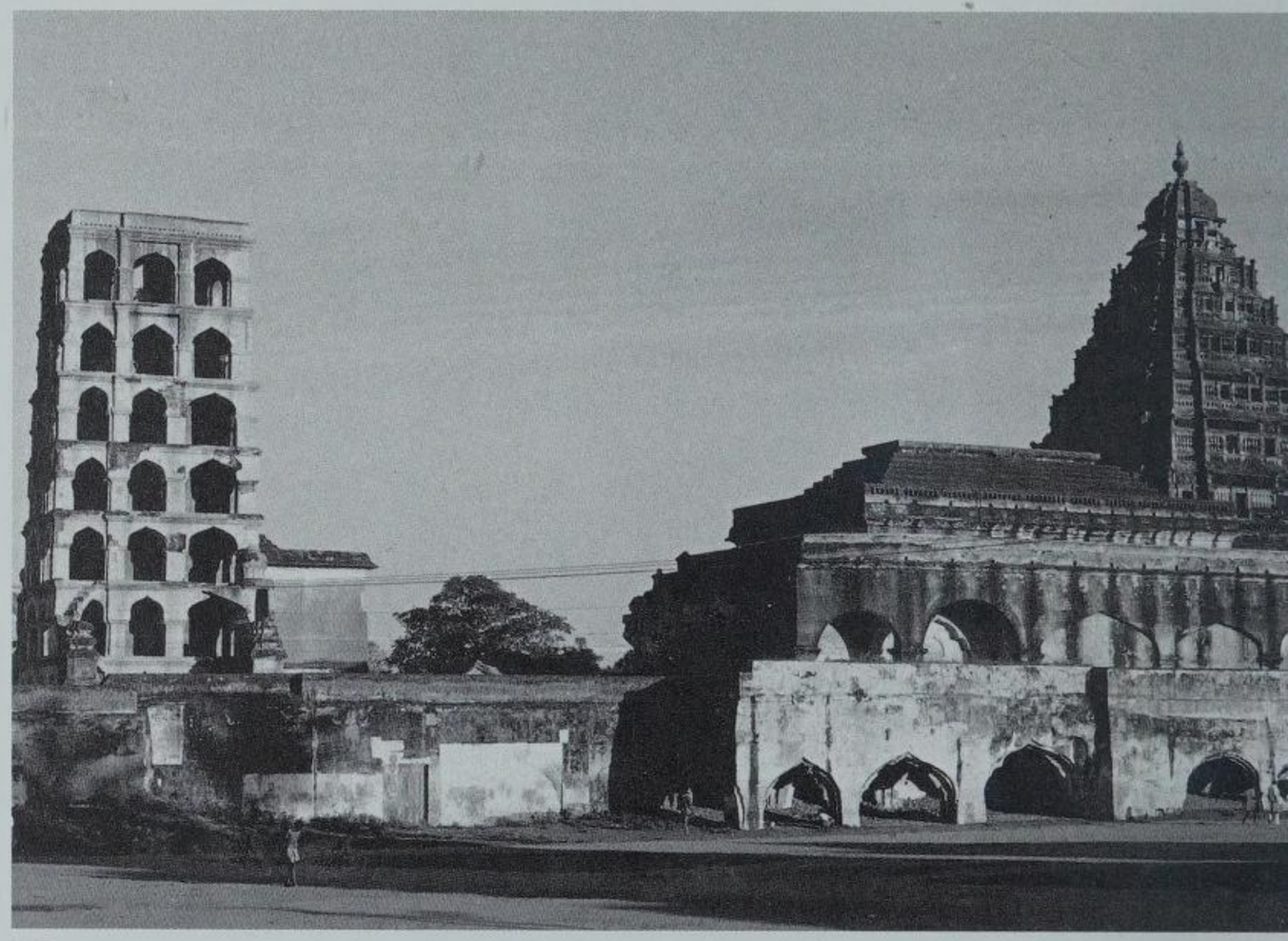

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256 (a)

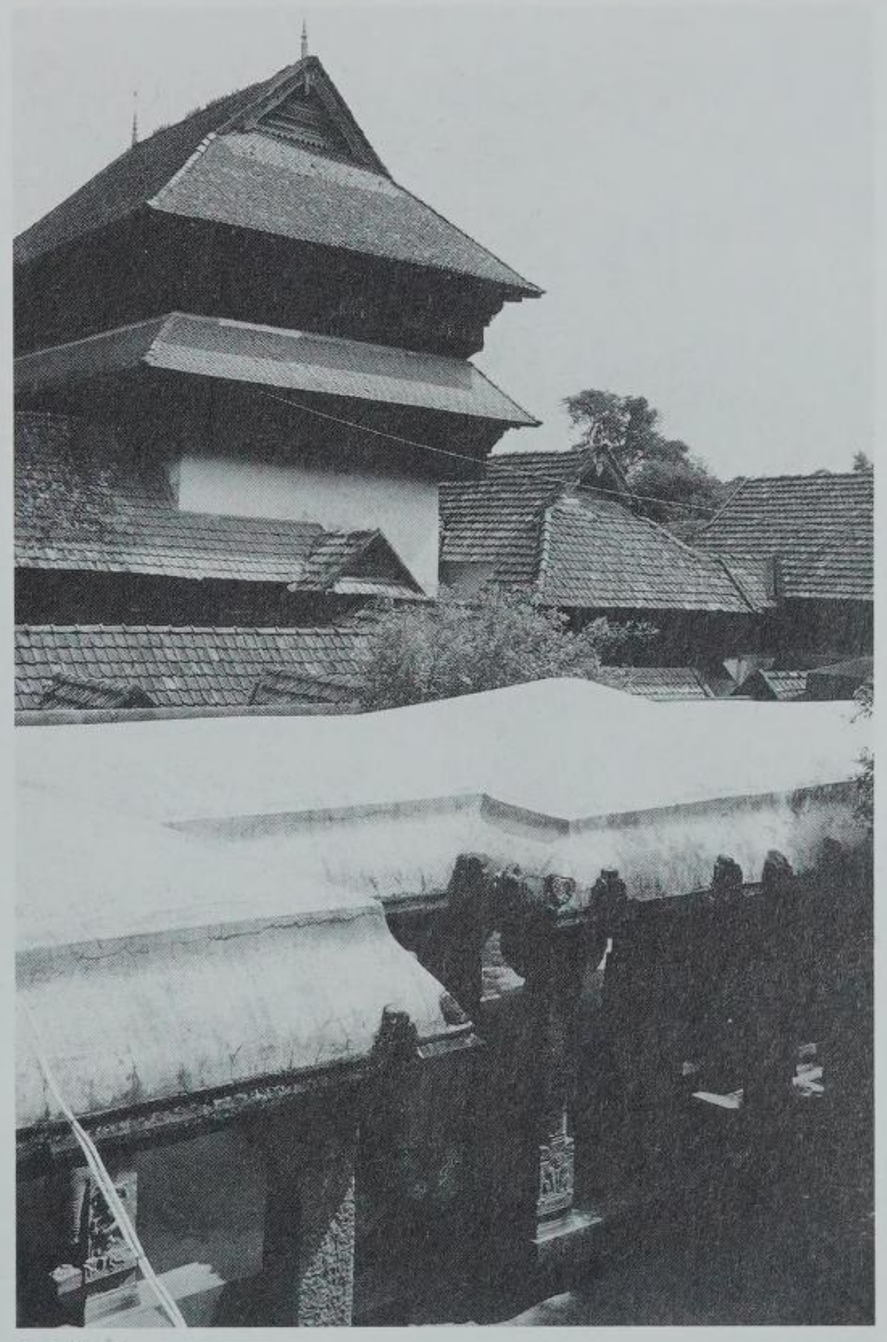
254. Chandragiri, royal palace: plan (1:500) and part-elevation, part-section (after Reuther).

255. Tanjavur, Nayaka palace from the south-west.

256. Padmanabhapuram, royal palace: **(a)** principal entrance; **(b)** private audience hall; **(c)** women's quarters with matriarch's pavilion right; **(d)** king's *prasada*.

256 (b)

256 (c)



256 (d)

from the state's matrilineal system: the king remained celibate and was succeeded through his sister's line. His *prasada* is linked to the hall of private audience along a circuitous corridor around the womens' quarters. It is dominant in elevation but the largest single element in the complex is the house of the matriarch.[33]

Rajputs

Beyond the Jaina strongholds, the indigenous tradition of religious architecture in north India had been crushed with the demolition of their monuments and the impressment of their craftsmen into the service of the Muslims. Like many Muslim magnates, several Rajput clans took advantage of Delhi's weakness in the 14th century to assert their independence and promote a Hindu revival. In general they had to fall back on interpretation of the traditional treatises – often in contemporary recensions – with varying degrees of accuracy, for reconstructions varied in their quality. The Sisodias of Chittor, Rana Kumbha (1433-68) in particular, 166;17
were the most vigorous patrons of temple building and rebuilding. It was in their domains that the Jainas had kept the tradition alive – indeed it was under Kumbha's protection that they achieved their masterpieces at Ranakpur and Chittor. In general Kumbha's extensive activity, obscuring much original work, is notable more for exuberance than

257. Chittor fort: **(a)** Tower of Fame; **(b)** Tower of Victory.

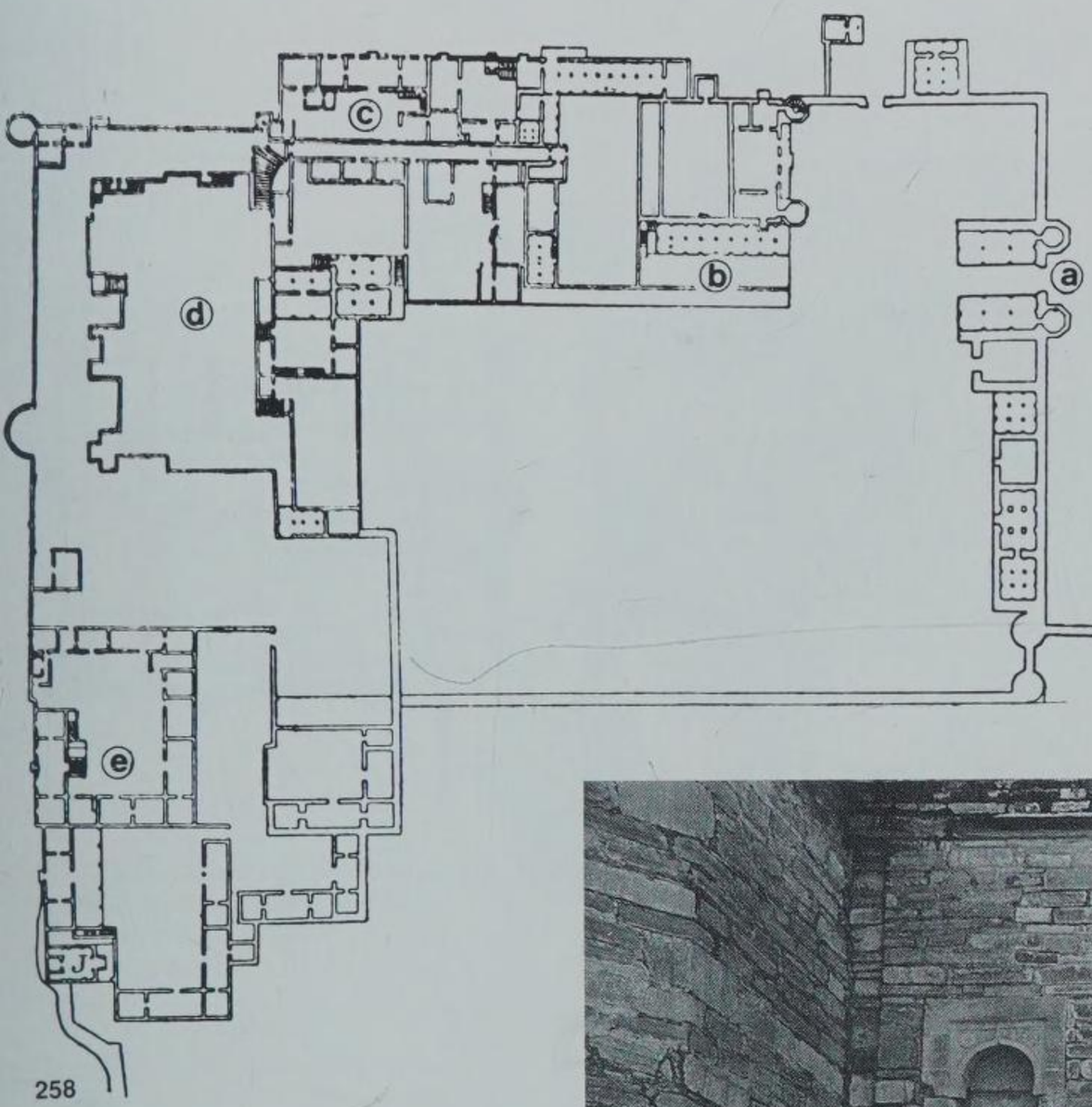
vitality – as the grandiose Kumbhashyama, which he rebuilt in 1448, testifies. The 'Tower of Victory' (Jayastambha) of 1458 is another matter. Built to commemorate success against Malwa – in emulation of Mahmud Khalji's victory *minar* in Mandu – its precise precedent is the 13th-century Jaina 'Tower of Fame'. Like that work, it is a quasi-religious building, a sequence of nine superimposed *mandapas* for its associated temple – a veritable *prasada*.

We have noted the passion of the Indian ruler for building new capitals. Less radical, if no less symptomatic, were the changes made within the single great acropolis-like strongholds of the Rajputs, most of which bear traces of several palace complexes, contiguous or separate. The palaces of the Sisodias of Chittor are the earliest to survive in any degree of completeness, apart from those of Mandu. They were rebuilt after their devastation by the armies of the Sultanate early in the 14th century, but little other than the late-14th century 'Chonda Mahal' predates Chittor's golden age, the reign of Rana Kumbha. He modernised the fortifications, adding the grand Ram Pol in 1459, and built a new palace. Like the *daulat khana* at Mandu, walled and arcaded if embellished with trabeated elements, but unlike their southern Hindu contemporaries in bulk, Kumbha's work seems to descend ultimately from the court and *iwan* tradition imported nearly a millennium-and-a-half earlier by the Parthians – but the lineage has been lost.

The principal entrance to Kumbha's palace compound, the Tripolia Gate, is to the east. Beyond is an elongated, trabeated portico – a *talar*, in essence, like the *chihil sutuns* of Delhi – aligned end-on to the portico for the guard at the gate. Addressing the *durbar* court, this doubtless sheltered the Rana during public audience. Beyond this open public zone, in the seemingly random distribution of rooms around private courts, there is no obvious distinction between the ruler's personal quarters and the accommodation of the royal ladies. Relatively formal elements may be distinguished, however. On the north-western corner of the main building, is a tower adjacent to a three-storey block with a rectangular

hall flanked by a pair of square chambers. Though less assertive than the clearly delineated masses of the Jahaz Mahal at Mandu, for instance, these structures stand out from the irregular north front and, with their splendid superimposed balconies carried on elaborate brackets and piers, recall the *prasada*.

There is a similar *prasada*-like arrangement in another building to the south-west of Kumbha's palace complex, which was perhaps for his heir, and the earlier house of Prince Chonda seems to anticipate it. It appears again next century in the 'House of Patta'. Jaimal's house, in contrast to the typical asymmetrical – even jagged – arrangement of the



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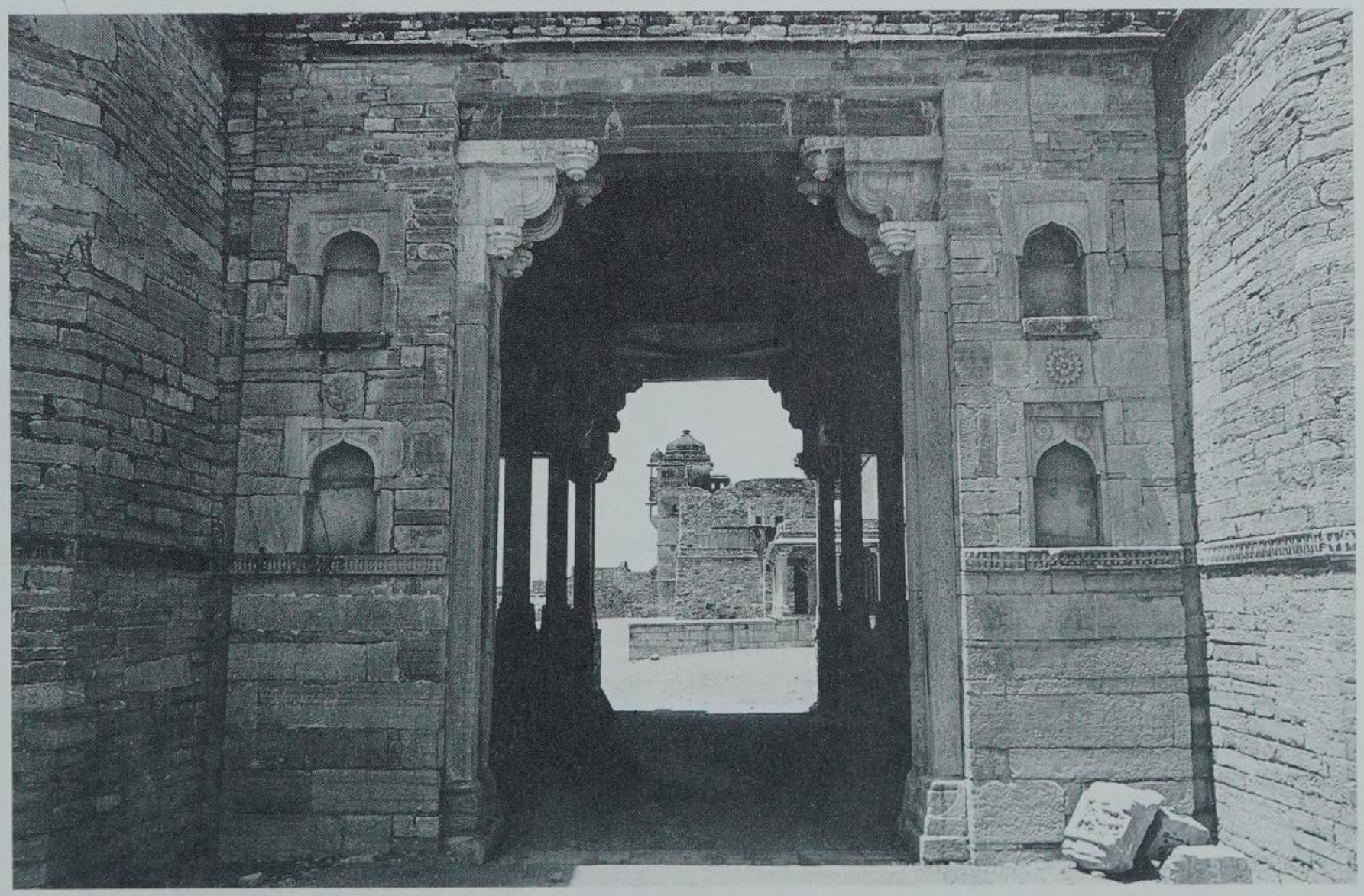
258. Chittor, Rana Kumbha's palace, plan (1:1000): **(a)** Tripolia Gate; **(b)** public audience hall; **(c)** inner court and three-storey block (possibly *zenana*); **(d)** main court of private apartments; **(e)** south-western block (possibly for heir apparent).

259 (a)



259 (b)

259. Chittor, Rana Kumbha's palace: **(a)** north front with *prasada* block right; **(b)** Tripolia Gate with audience portico.

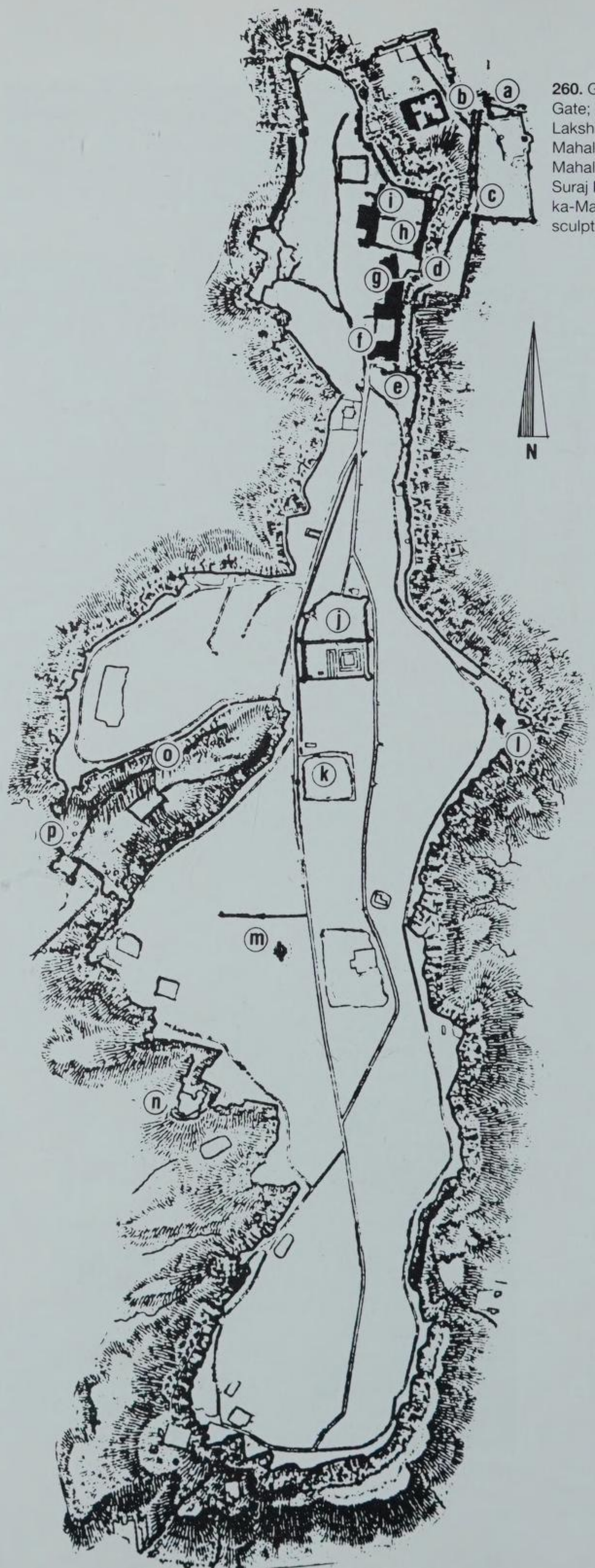
Chittor palaces, recalls the severe formality of the Kushak
222 Mahal at Chanderi.[34]

Patta and his fellow nobleman, Jaimal, met their celebrated deaths in the Mughal siege of Chittor in 1567 during which Rana Udai Singh left his ancient seat and founded a new capital in the remote valley of his artificial lake Pichhola. In the new palace, presumably begun about 1567, a trabeated hall of public audience addressed the main precinct from the east, in much the same form and in a similar relationship to the main gate as at Chittor. To the north was an armoury with a colonnaded court – Raja Angan Chowk – above it, between the palatine temple and the treasury. To the south of the audience hall, the Toran Pol gave access to the main court of the private apartments – the ruler's quarters to its north, adjacent to the hall, the *zenana* to its south. In mass and detail these buildings flanking the Toran Pol recall the *prasada*-like element embedded in the mass of Rana Kumbha's palace. Indeed the principal *zenana* wing – the
302(a) Badal Mahal – stood out from the mass as a much more clearly defined block before the addition of the rectangular Lakshmi Chowk to its south later in the century.

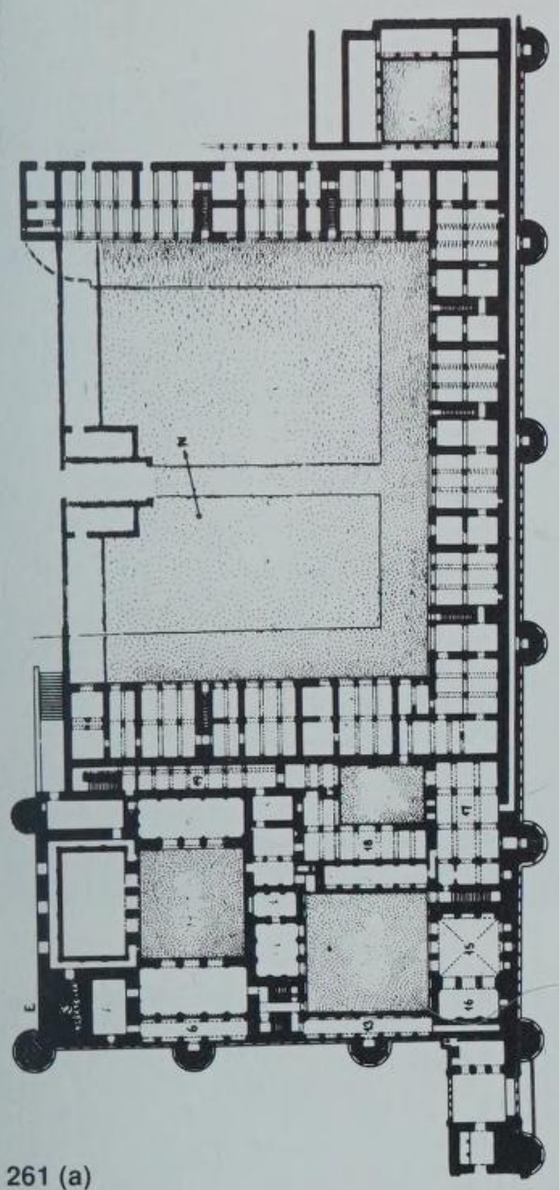
The Mandu, Chanderi and Chittor palaces stand at the head of a series of important works including the late-15th and early-16th century palaces of Gwalior, the ones built in the following three or four generations for the Rajput rulers of Bundelkhand at Orchha and Datia and the late-16th century works of Akbar at Agra and Fatehpur Sikri. Planned around court and *iwan*, but variously recalling the age-old *prasada* tradition with reference to the Malwan works in particular, these palaces represent the most fundamental synthesis between native and imported ideas.

The ancient hill-fort of Gwalior, lying directly on the main route from north to south, is the gateway to central India. Its strategic significance can not have been overlooked by any ambitious potentate from Chandragupta Maurya onwards. However, apart from its Pratihara and Kachchhapaghatha temples – which, though mutilated, fared better than their contemporaries at Chittor after the Muslim invasion – its greatest treasure is the late-15th century palace of Man
32 Singh Tomar. That this is the oldest Hindu secular building of any importance to come down to us virtually intact is the more surprising given the semi-ruinous state of its successors built to accommodate such illustrious rulers as Sher Shah, Jahangir and Shah Jahan en route from Agra to their southern and eastern domains.[35]

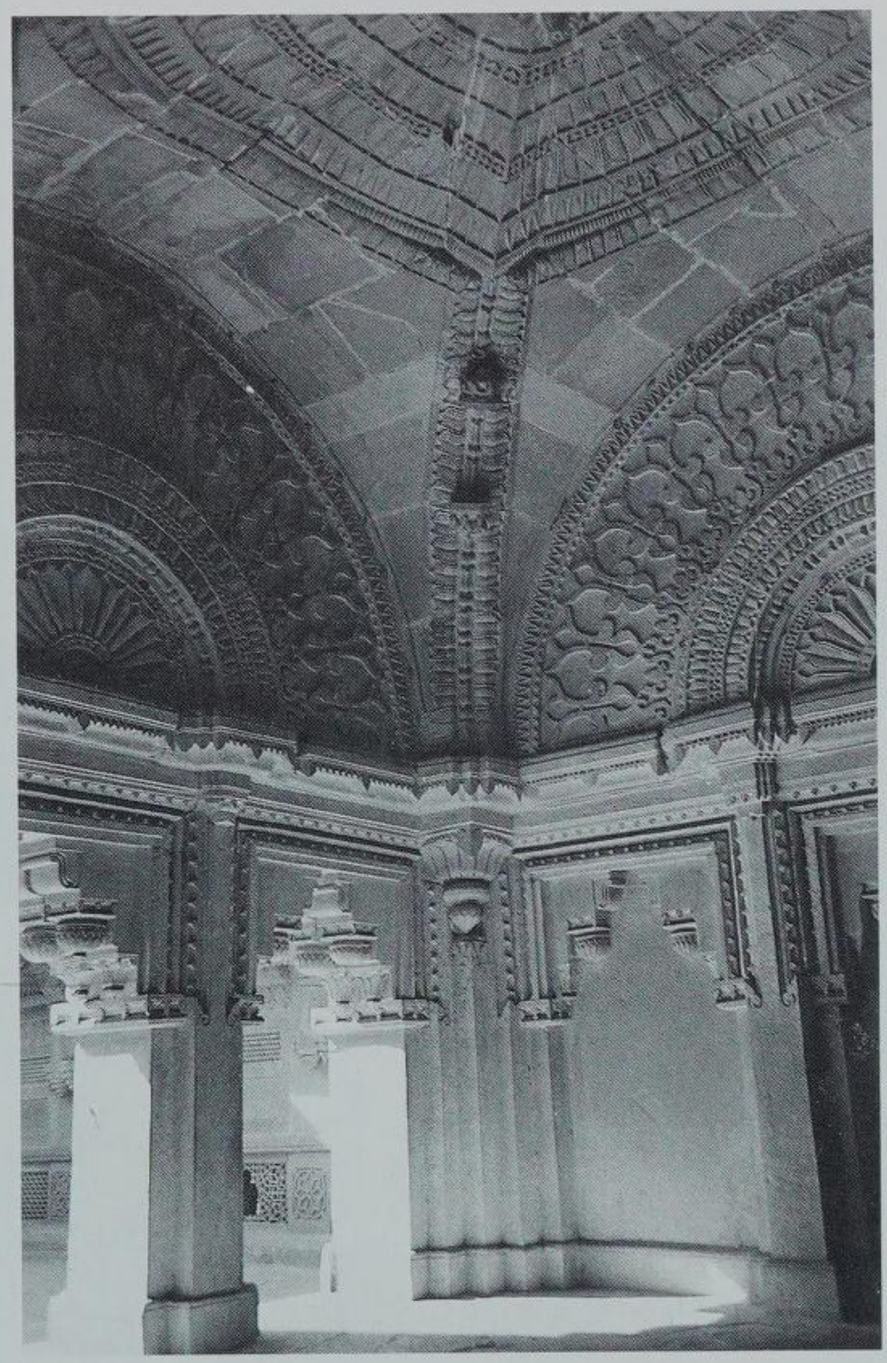
High on the edge of the vast spur which dominates the town, as at Chittor, access to Man Singh's palace is gained by a typically tortuous route through a series of gates culminating in the precinct portal. Unlike the one at Chittor, which is integrated with the relatively low outer enclosure,
32(a) the magnificent Hathi Pol at Gwalior continues the spectacular facade of the palace. The rubble and plaster walls of Chittor have lost most of their revetment but the facades of Gwalior



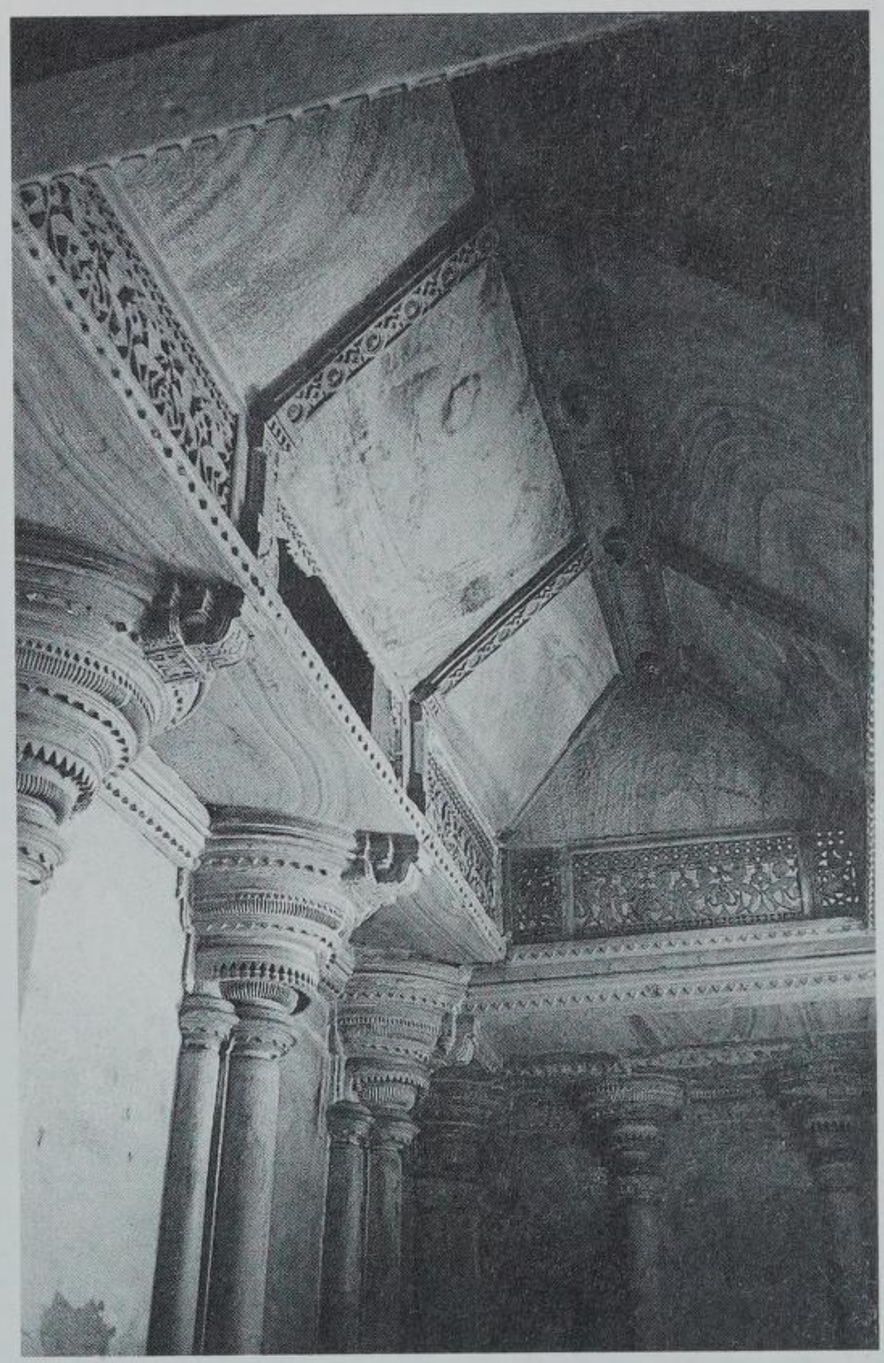
260. Gwalior, fort plan (1:10000): **(a)** Alamgir Gate; **(b)** Hindola Pol; **(c)** Ganesha Pol; **(d)** Lakshman Gate; **(e)** Hathi Pol; **(f)** Man Singh Mahal; **(g)** Vikramaditya Mahal; **(h)** Jahangiri Mahal; **(i)** Shahjahani Mahal; **(j)** Bala Qila; **(k)** Suraj Kund; **(l)** Sas-Bahu temples; **(m)** Teli-ka-Mandir; **(n)** Gharghari Gate; **(o)** Jaina sculptures; **(p)** Urwahi Gate.



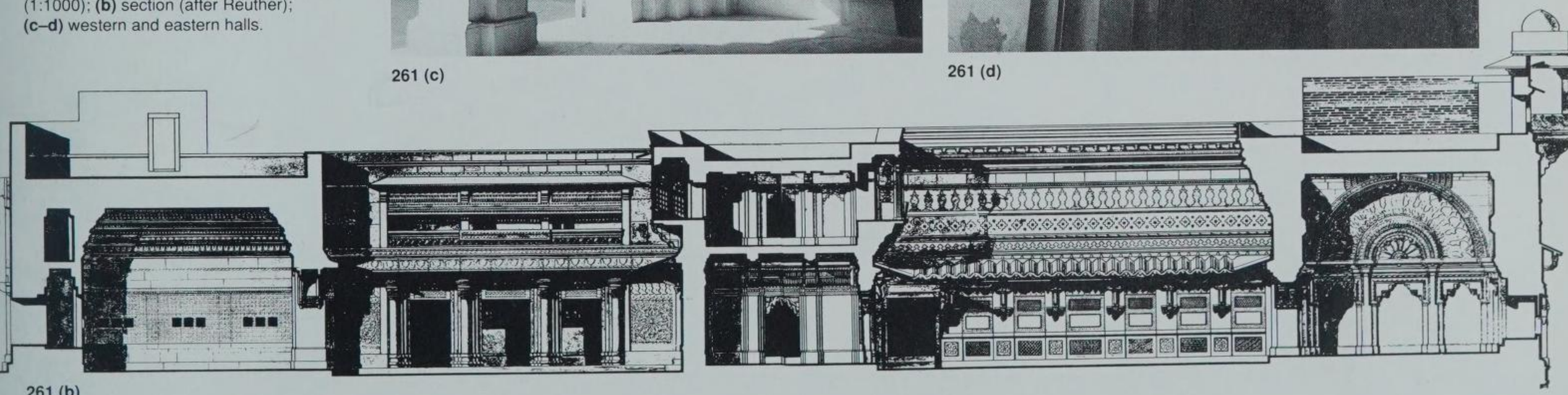
261 (a)



261 (c)



261 (d)



261 (b)

261. Gwalior, Man Singh's palace: **(a)** plan (1:1000); **(b)** section (after Reuther); **(c–d)** western and eastern halls.

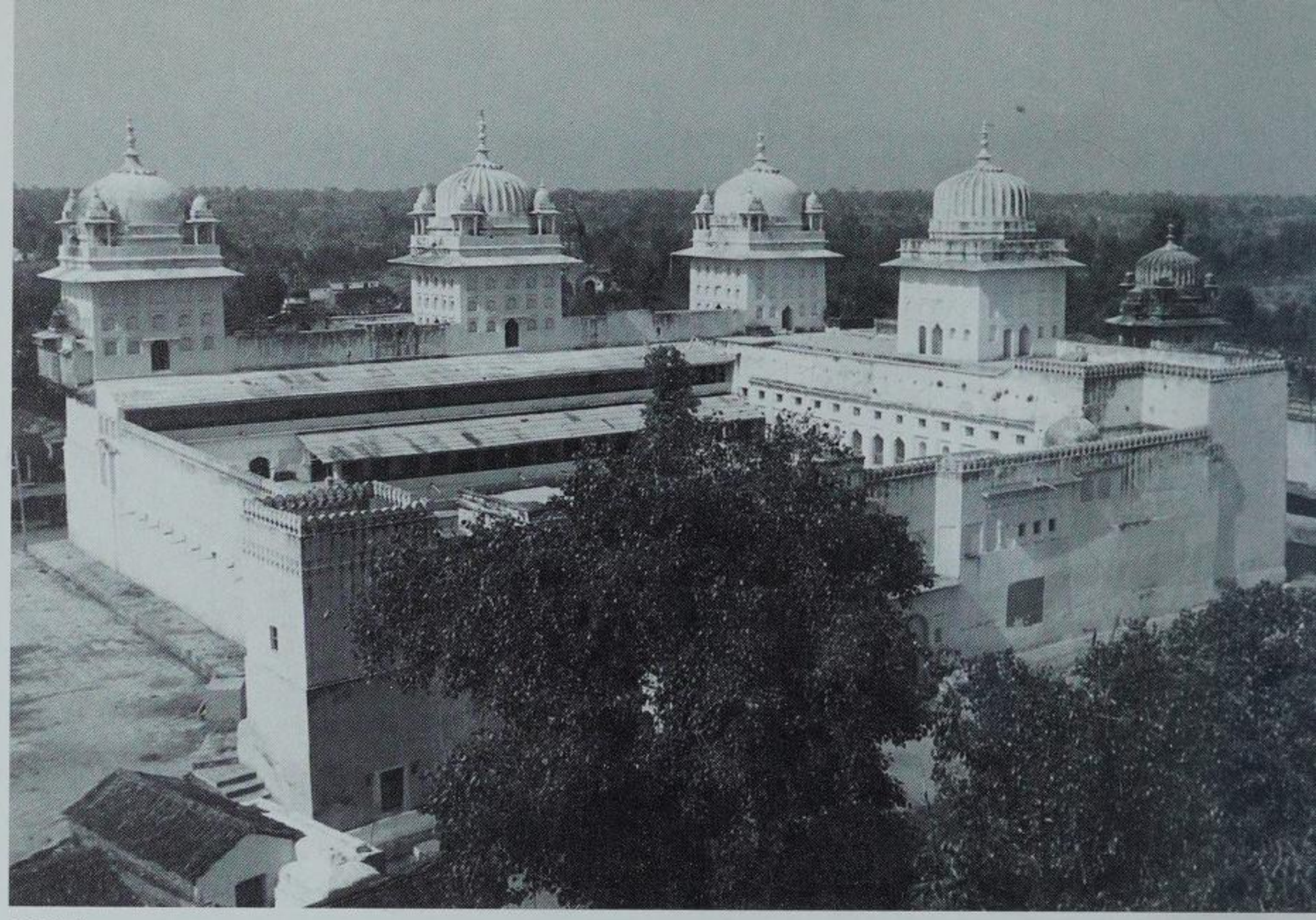
retain rich blue, white and yellow tile work in the context of a sumptuous articulation incorporating elements drawn from both the native trabeated and imported arcuate traditions, carved in relatively high relief from fine masonry.

32(b) A series of courts surrounded by a variety of chambers provides for the major royal apartments, as at Chittor. Essentially human in scale, despite external appearances, and as richly varied in volume as in surface ornament, the halls and chambers of the principal level at Gwalior are formally disposed about the two square courts, in the place of *iwans*, but the courts themselves are not axially aligned. The *zenana* quarters above, with communication passages to the outside, and roof terraces with pavilions like the Jahaz Mahal at Mandu, overlook the courts from screened galleries between deep *chadyas*. Also as at Mandu, subterranean chambers recall the *serdabs* long provided in Persian and

219(d); 33(b)

Mesopotamian palaces for summer retreat. The structure is a traditional trabeated one, the *chadyas* and galleries supported on particularly luxurious serpentine brackets, the piers which screen the main spaces from the courts bearing capitals descended from the forms elaborated by the Chandellas and their contemporaries. The roofing of the main western hall has been done pragmatically by laying large slabs of stone against a raised transom but there is a false ribbed vault over the eastern chamber.

At Orchha there are three great palaces: the Ramji Mandir of the town's founder, Raja Rudra Pratap (1501-31) and his son Bharti Chand (1531-54); the Raj Mahal built by Bharti's successor, Madhukar (1554-91), on an island in the River Betwa opposite the town; the Jahangiri Mahal of Bir Singh Deo (1605-27), also on the island site. All three palaces have square courts surrounded by apartments, like the most
217 formal of Muslim buildings – like the Ashrafi Mahal, indeed, itself developed from the Iranian *madrasa* form. All have towers and several receding storeys surmounted by terraces like the ancient Hindu *prasada*. Arch and dome join post and beam.[36]



262 (a)

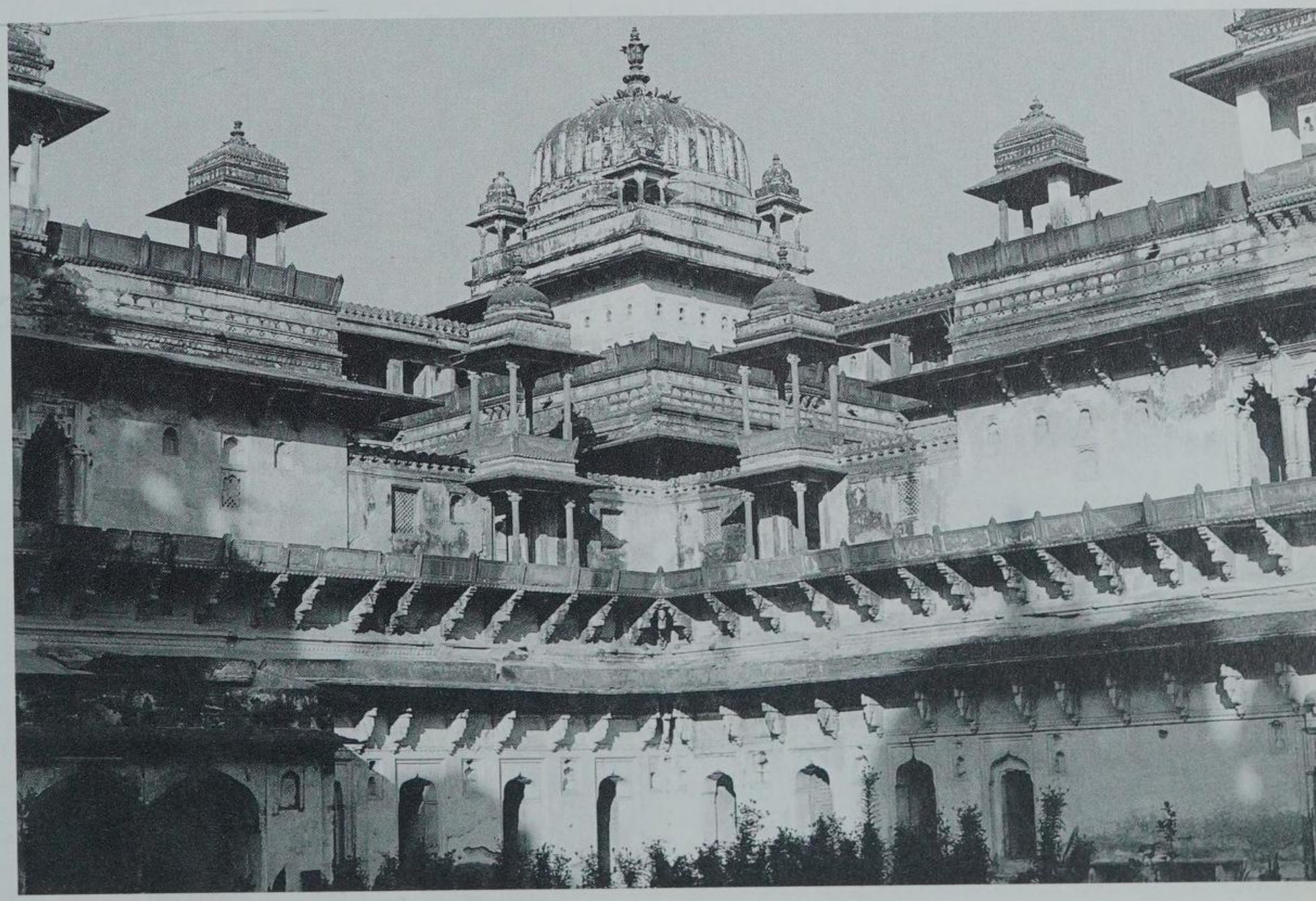
262 (b)

262 (c)

262. Orchha: **(a)** Ramji Mandir; **(b)** Raj Mahal with Jahangiri Mahal background; **(c–d)** Jahangiri Mahal, from south-west and north-east corner of court.

The Ramji Mandir, incomplete, was converted into a temple, the Raj Mahal is much damaged but the enormous Jahangiri Mahal still gives some impression of its former opulence. Though this building follows the *haram saras* of Akbar at Agra and Fatehpur Sikri – themselves influenced by Gwalior and earlier Orchha – it is conveniently dealt with here in the context of the Bundela series. Of its five storeys, the main ones are the third and fourth, with the court raised over superimposed arcades and overlooked by a broad gallery from which the eight *prasada*-like pavilions stand out. At the third-floor level the main rooms of these pavilions are linked with antichambers and served by screened corridors hung on the outer walls. On the fourth level the apartments are separated by courts. Above that are the domed and balconied kiosks of the roof terraces reached by the narrow screened galleries crowning the perimeter walls.

The main entrance portal itself, flanked by sculpted elephants, is embroidered with cusped blind arches. Within, a long line of elephant brackets supporting a russet cornice runs round the periphery of the great court. Eaves and piers are overlaid with a lace-like veil of carved flowers and on the

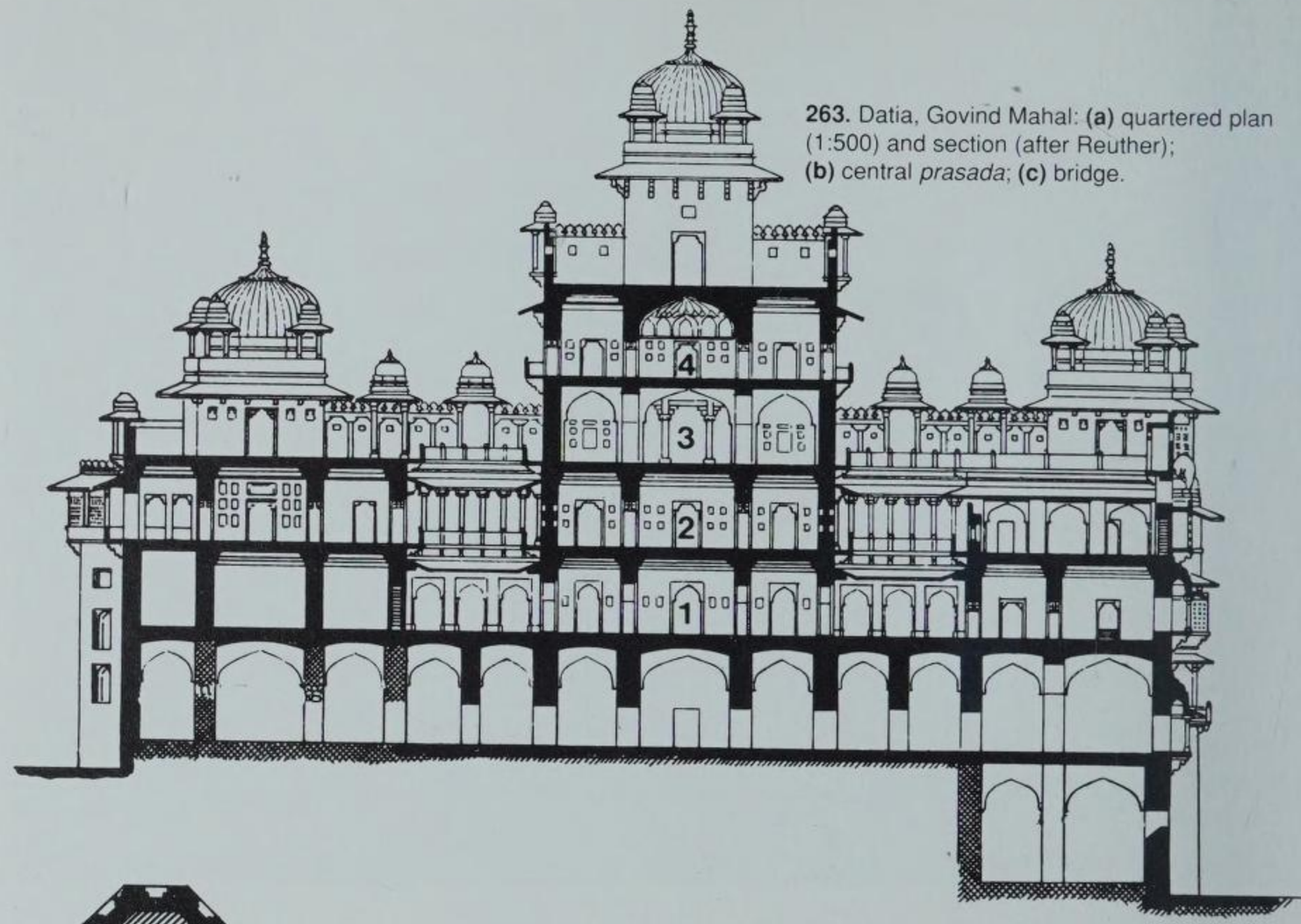


262 (d)

sandstone walls are paintings of peacocks, floral designs and geometric patterns. There is a distinctly Persian component in the motifs of this painted ornament in the Jahangiri Mahal. In contrast the surviving late-16th and early-17th century mural schemes of the devout Raja Madhukar's period in the Raj Mahal, much damaged in later conflicts, are full-blooded and flamboyant representations of the amorous adventures of Krishna amongst the
46(c) cowherdesses (*gopis*) – the Ras Lila theme so popular with the Rajputs.

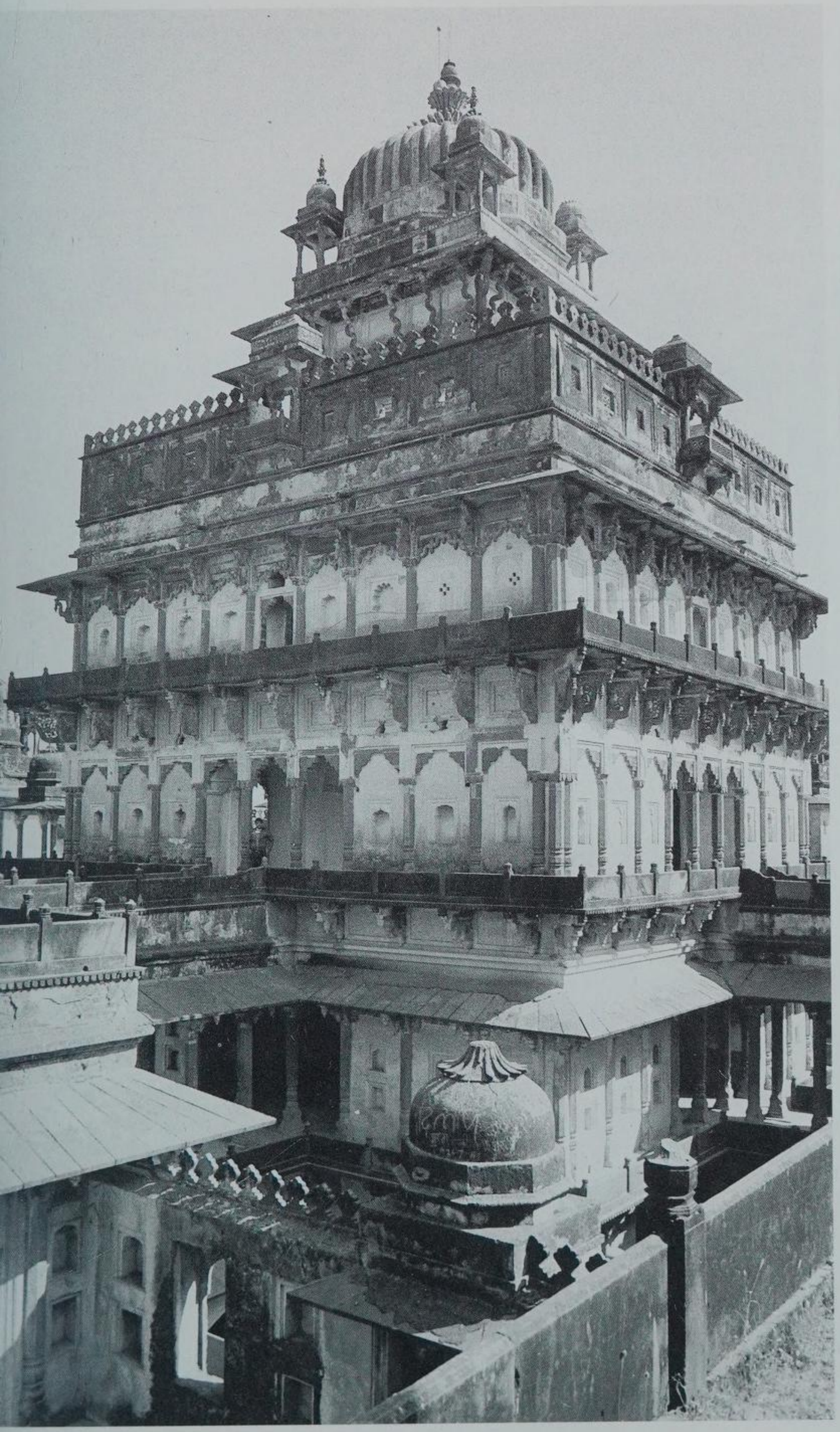
To complete the series of experiments in formal palace design which he and his predecessors had conducted at
33(a) Orchha, Bir Singh Deo built another palace, the Govind Mahal at Datia, in the last decade of his reign. This combines
217;222 the forms of the Ashrafi and Kushak Mahals in one integrated composition: the regular court and arcuate structural system of the original *madrasa* with the ceremonial block of the Khalji palace in place of the tomb at its centre. At the hands of the Hindu architect of Datia's extraordinary central feature, however, the Kushak Mahal's severe walls and monumental arches give way to the post, beam and bracket, balcony, *chadya* and *chattri* of the age-old *prasada* – though the whole confection is crowned with a ribbed dome. The outer walls are more massive: they are raised over *serdabs* hewn from the solid rock and a continuous arcaded basement. Apartments on two levels, decorated with delicate arabesques, are surrounded by external screened galleries and surmounted by terraces with eight pavilions – as in the Orchha Jahangiri Mahal. However, rising from the centre of the court and linked to the side pavilions by elegant bridges, the four-storey tower containing the royal apartments and *durbar* hall transforms the four-square solidity of the Orchha work into one of majestic aspiration.

One of Orchha's most incredible creations is the giant Chaturbhuja temple which dominates the town on the river bank opposite the Raj Mahal's elevated flank. With an abundance of light and space inside, uncharacteristic of the Hindu temple, it is as audacious in concept and colossal in scale as a European cathedral. Built between 1558 and 1573 by Raja Madhukar, this strange work replaces the traditional closed hall, restricted in space even in the greatest of Chandella works, by an enormous cruciform congregational space. This catered for the hymn-singing massed devotees of the Krishna *bhakti* cult centred on Brindaban where the Bundela *rajas*, like those of Amber and other Rajput magnates, were active as patrons. In general conception
222 this space recalls the Chanderi Kushak Mahal and the crossing is domed, but enormous conical *shikharas* crown the sanctuary, its vestibule and the corners of the main mass at Orchha. A similar hybrid, drawn from the cross-fertilization of religious and secular forms, characterizes the series of cenotaphs which mark the spots beside the Betwa at which the Bundela *rajas* were cremated.[37]



263 (a)

263. Datia, Govind Mahal: **(a)** quartered plan (1:500) and section (after Reuther); **(b)** central *prasada*; **(c)** bridge.

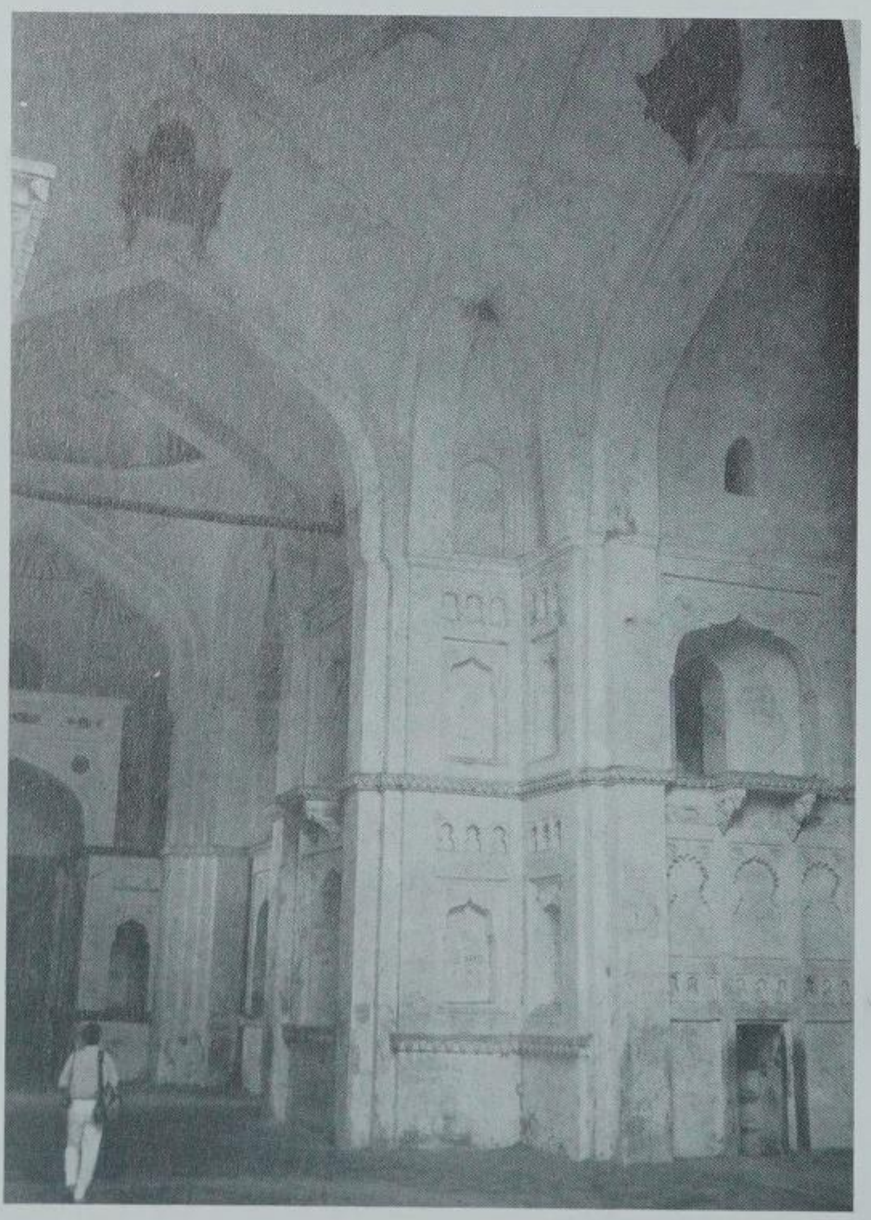


263 (b)

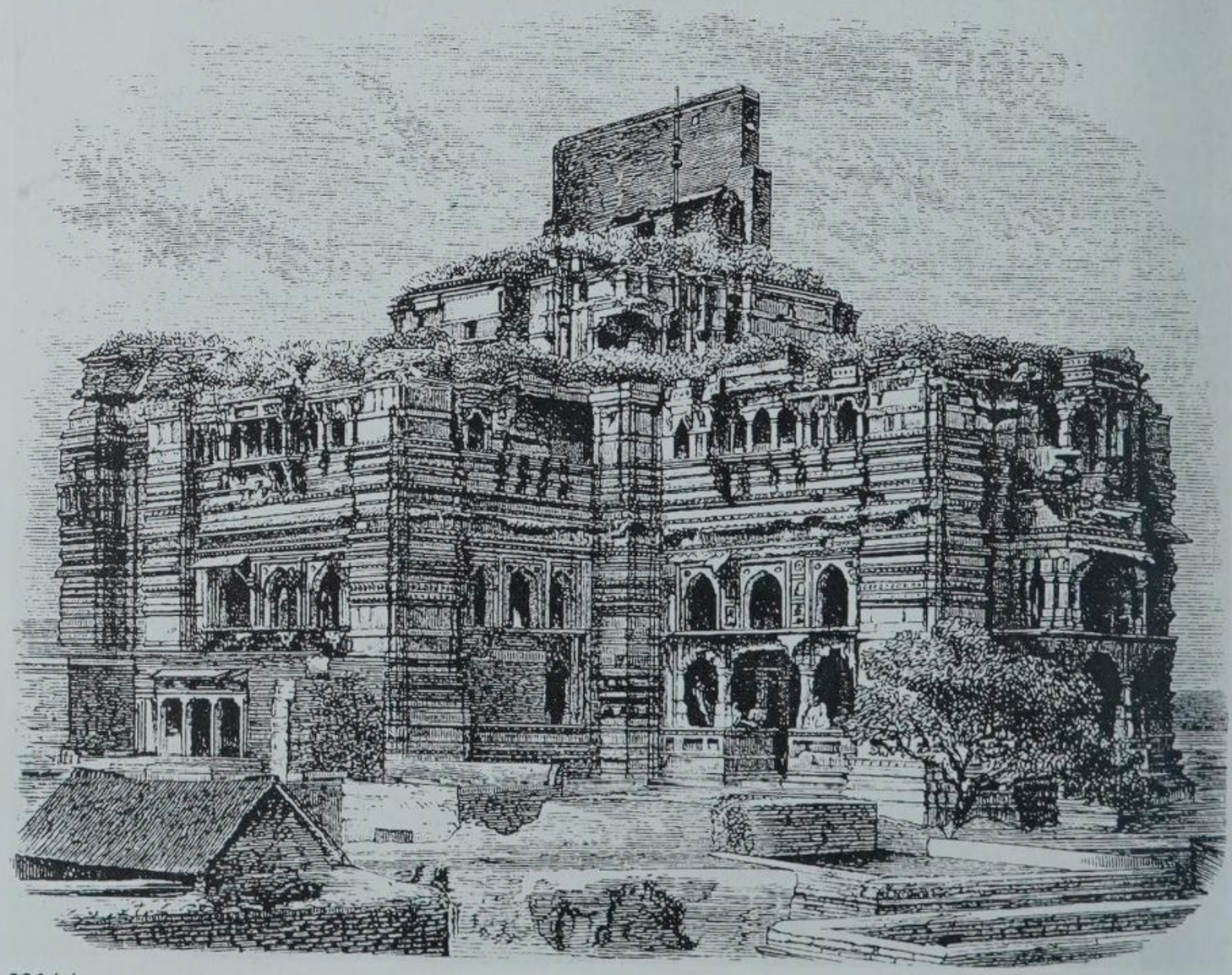
263 (c)

264. (a–b) Orchha, Chaturbhuja: from south-east and nave; **(c)** Brindaban, Govind Deo Temple.

264 (a)



264 (b)



264 (c)

Mughal Achievement

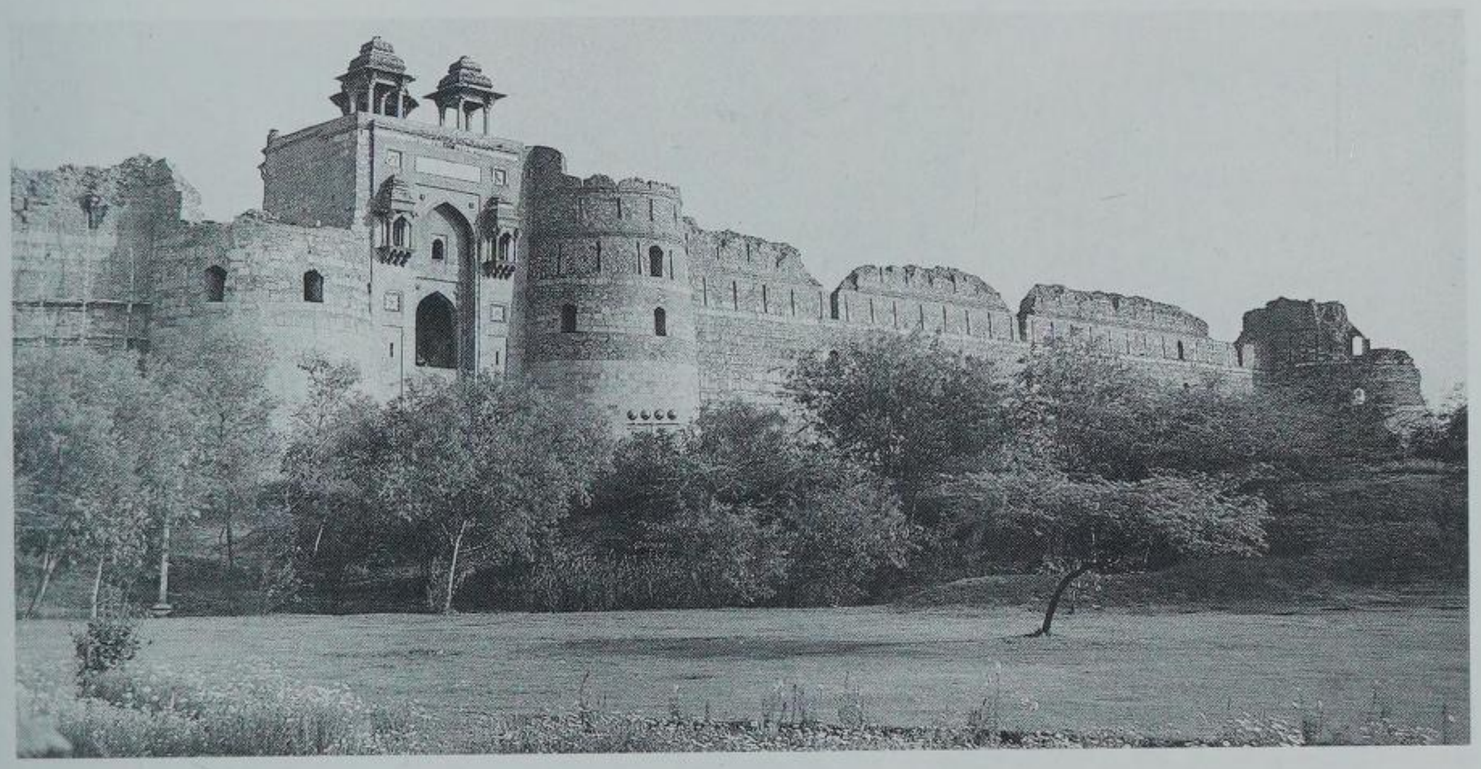
The Great Palace

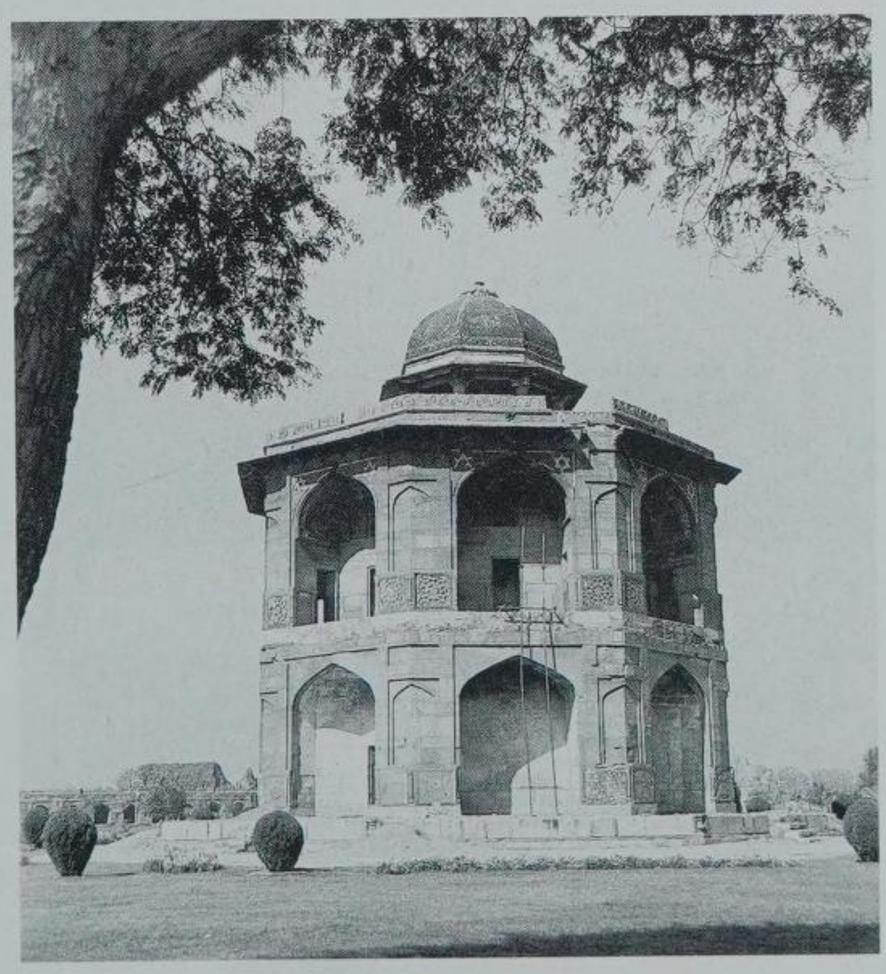
The Timurid prince, Babur, who founded the imposing dynasty which replaced the Afghans, was a man of acute aesthetic awareness, attuned to the sophisticated works of the Timurids and Safavids. In his memoirs he claims credit for several gardens and pavilions and betrays some contempt for the Indian tradition in his reference to one of the few mosques built during his reign – in the Lodi fort at Agra. However, he did admire the palace of Man Singh at Gwalior – presumably because its architect, reducing the monumental to the exquisite, adapted the ubiquitous west-Asian court and vaulted hall to suite a climate which the new emperor specifically deplored. Apart from the Ram and Zahara Bagh at Agra – the former apparently centred on a *hasht behisht* – his major work was a *talar* before the Lodi palace. This no doubt conformed to the type most recently represented by Shah Tahmasp's *chihil sutun* at Qazvin, if it did not actually emulate the Timurid structure Babur himself had so admired in the Bagh-i-Maidan of Samarkand. Even had imported craftsmen been employed on the job, such a structure would hardly have been much at variance with the form of audience hall which, nearly two millennia earlier, the Indians themselves had derived from the *apadana* prototype. Babur's greatest successors, too, consciously emulated the works of their Timurid ancestors and even of the Caliphs of Baghdad in their own synthesis of native and imported elements.[38]

The first great citadel built after the advent of the Mughals, the Purana Qila which dominated Humayun's new Delhi capial of Dinpanah, seems to have followed the precedent set by Firoz Shah; though the so-called Sher Mandal, the octagonal building used as a library in which Humayun met his death, may be seen as a miniature derivative of the *hasht behisht*. In a way typical of early Mughal works, like the Jamali Masjid at Mehrauli and the new fort's own Qila-i-Kuhna, the great portals set into the powerful bastions combine Persian-inspired encaustic tile work, marble mosaic possibly contributed by refugees from the fallen Egyptian Mamluk regime and India's own finely dressed red sandstone inlaid with panels of either contrasting colours or white marble.[39] *36(a)* *34,35(a)*

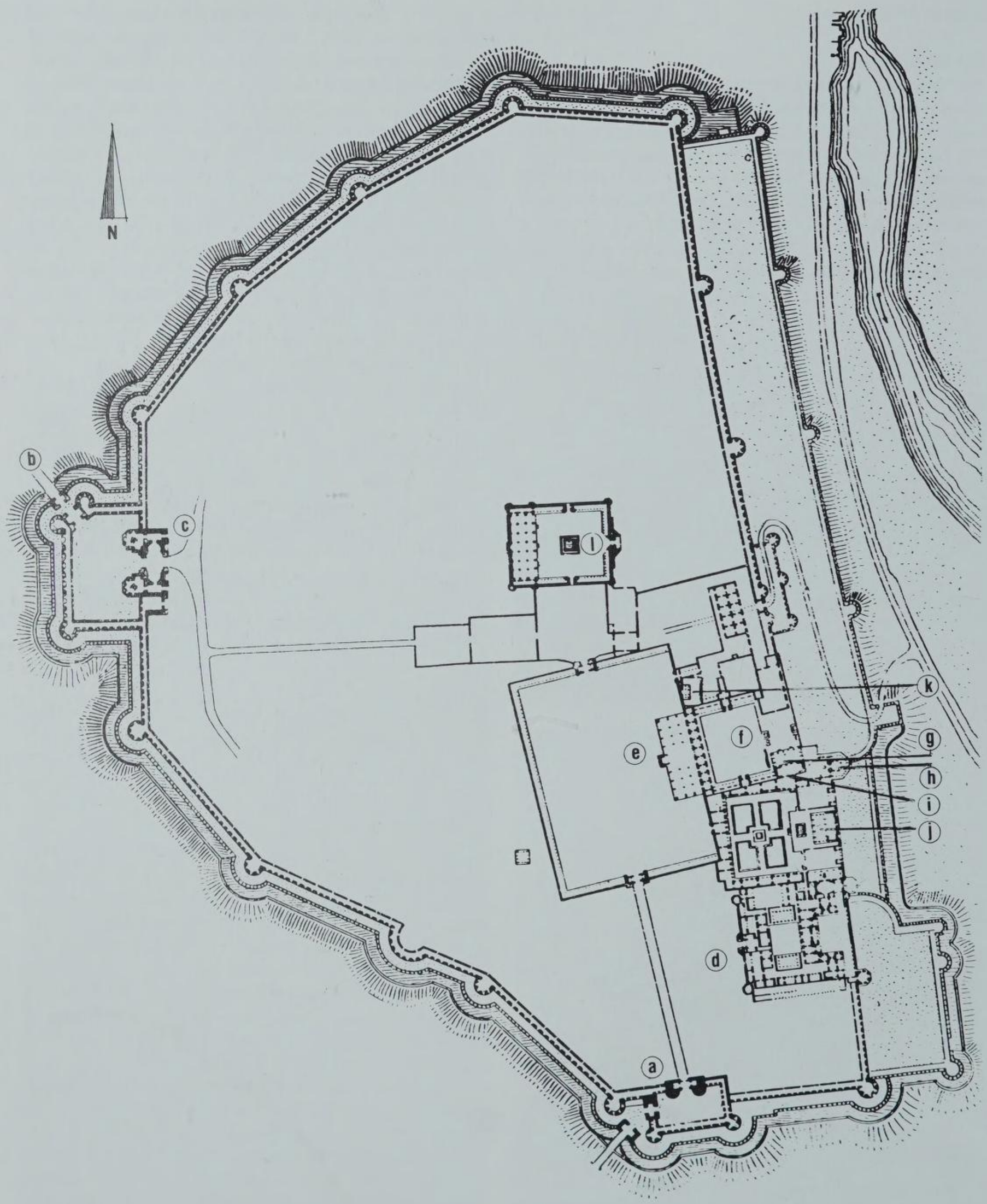
Akbar furthered this hybrid style in his series of metropolitan and provincial forts, including most notably those of Agra (from 1564), Ajmer (from 1570), Lahore (from 1580) and Allahabad (from 1583). Beyond their general distribution, the defence work is the most substantial legacy of Akbar's period in all his greatest forts. The massive bastions, with playful *chattris*, are sheathed with finely dressed red sandstone at Agra and Allahabad, finely laid brick at Lahore, and though the superb tiles of the panelled north front at Lahore were added by Jahangir, in all three works pronounced aesthetic sensibility was brought to bear on the design of even the most utilitarian elements, achieving a compromise between oppressive power and festive display which is at its most admirable, perhaps, at Agra. The principal royal seat was clearly designed to impress the native princes but also to win their admiration. In a way utterly typical of the Din-Illahi, moreover, much in the decorative scheme is of Islamic inspiration but much else derives from the indigenous tradition.

The Agra fort is an irregular semicircle with its base parallel to the Yamuna. On the river side there is a broad terrace between the two-tiered walls, breaking out into irregularly spaced bastions of which the most prominent commands a





265. Delhi, Purana Qila: **(a)** ramparts and south gate (Humayuni Darwaza); **(b)** Sher Mandal.



266. Agra, Red Fort: plan (1:4000) **(a)** Amar Singh Gate; **(b)** Delhi Gate; **(c)** Hathi Pol; **(d)** Jahangiri Mahal; **(e)** *diwan-i-am*; **(f)** Macchli Bhavan; **(g)** *diwan-i-khas*; **(h)** Muthammam Burj; **(i)** *shish-mahal*; **(j)** *khas-mahal* and Anguri Bagh; **(k)** Nagina Masjid; **(l)** Mothi Masjid.

Plate 34. Delhi, Humayun's tomb: *hasht behisht* from south-west.

Plate 35. (a) Fatehpur Sikri, Badshahi Masjid: Buland Darwaza from south; **(b)** Agra, Red Fort, Jahangiri Mahal: court; **(c)** Fatehpur Sikri, palace: *daulat khana*, north zone.

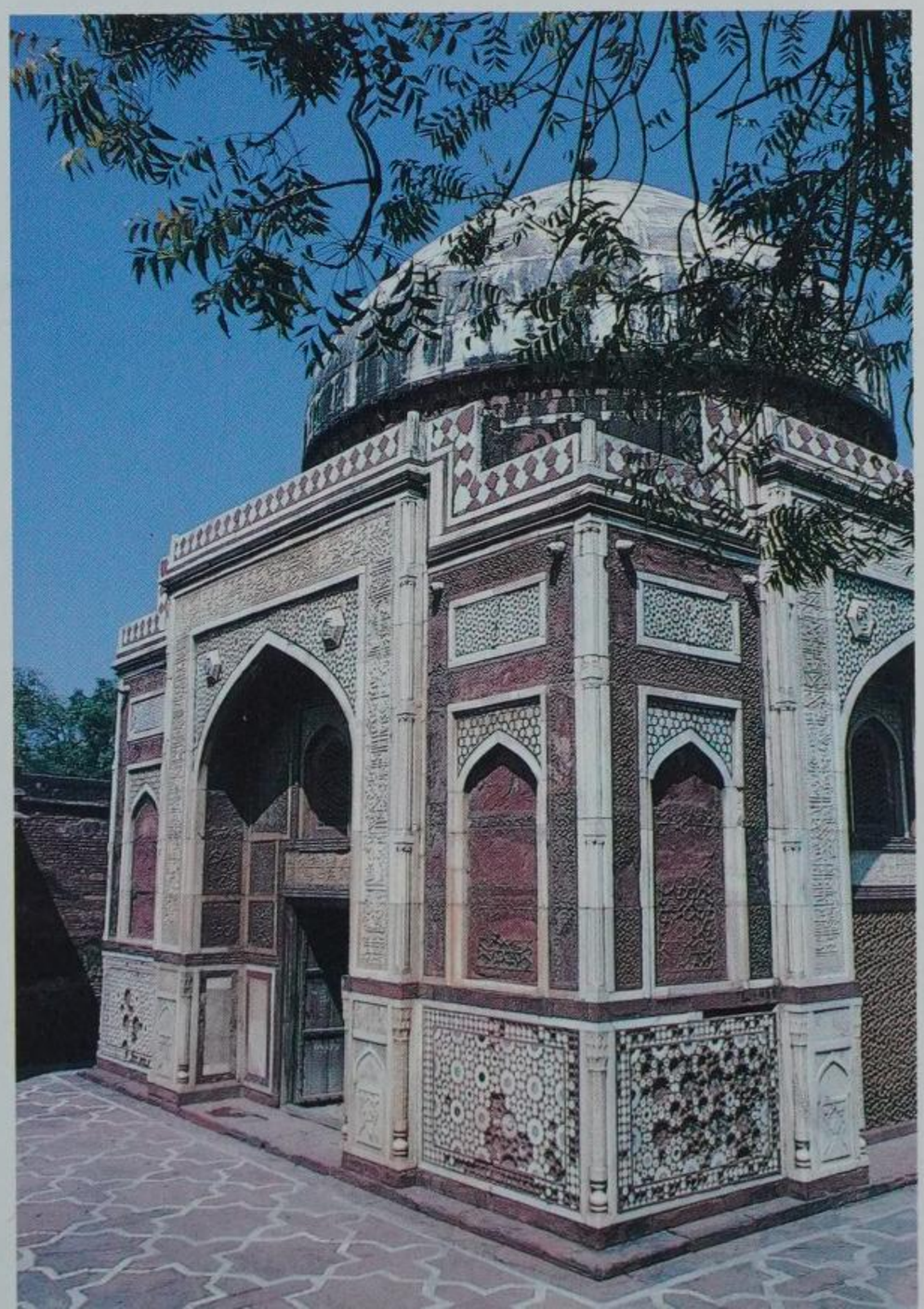
35 (a)

35 (b)

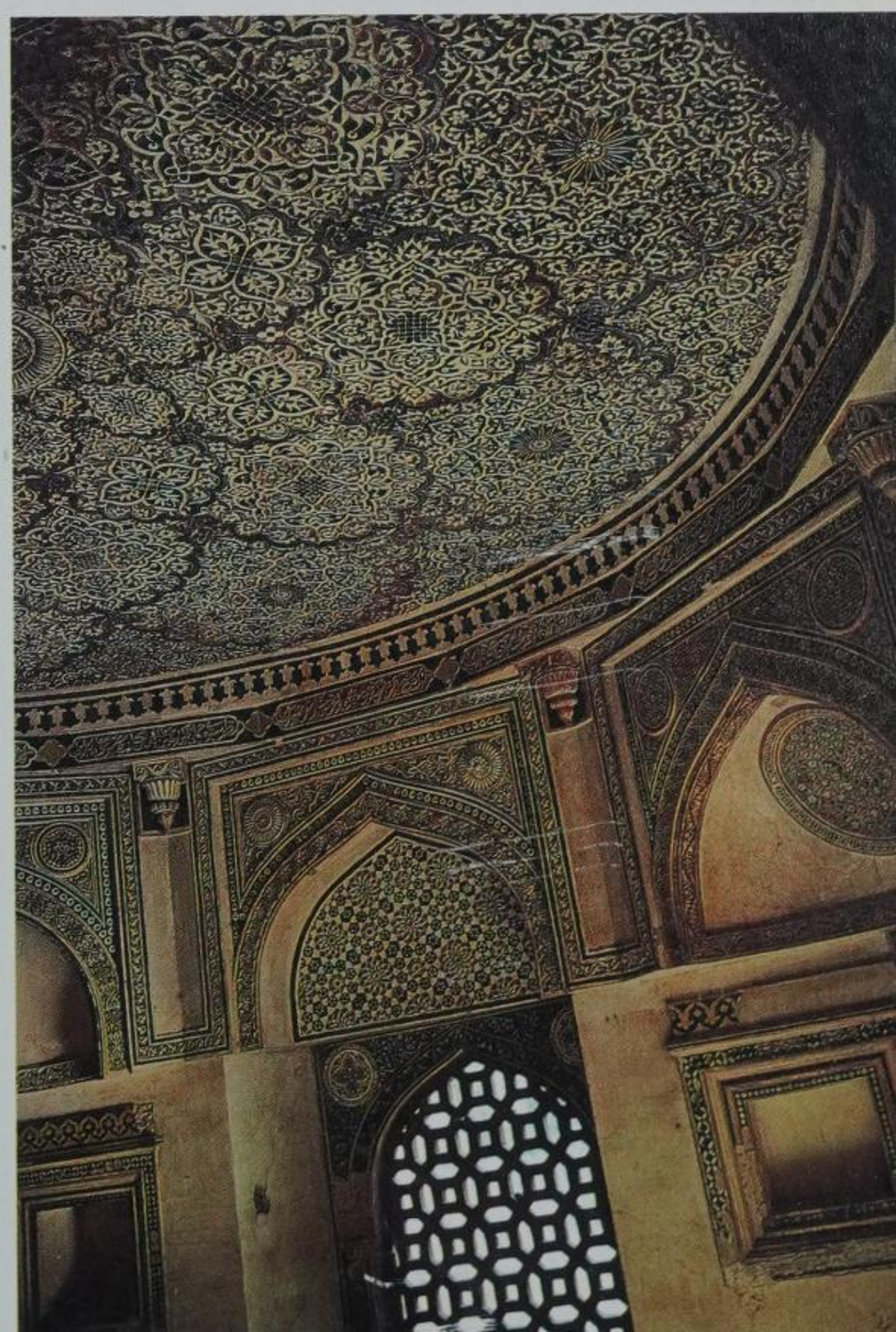
35 (c)

36 (a)

Plate 36. Delhi **(a)** Purana Qila: Qila-i-Kuhna Masjid, prayer hall from south-east;
(b) Nizam-ud-din: tomb of Atgah Khan;
(c) Jamali Masjid: tomb of Jamal Khan.



36 (b), (c)



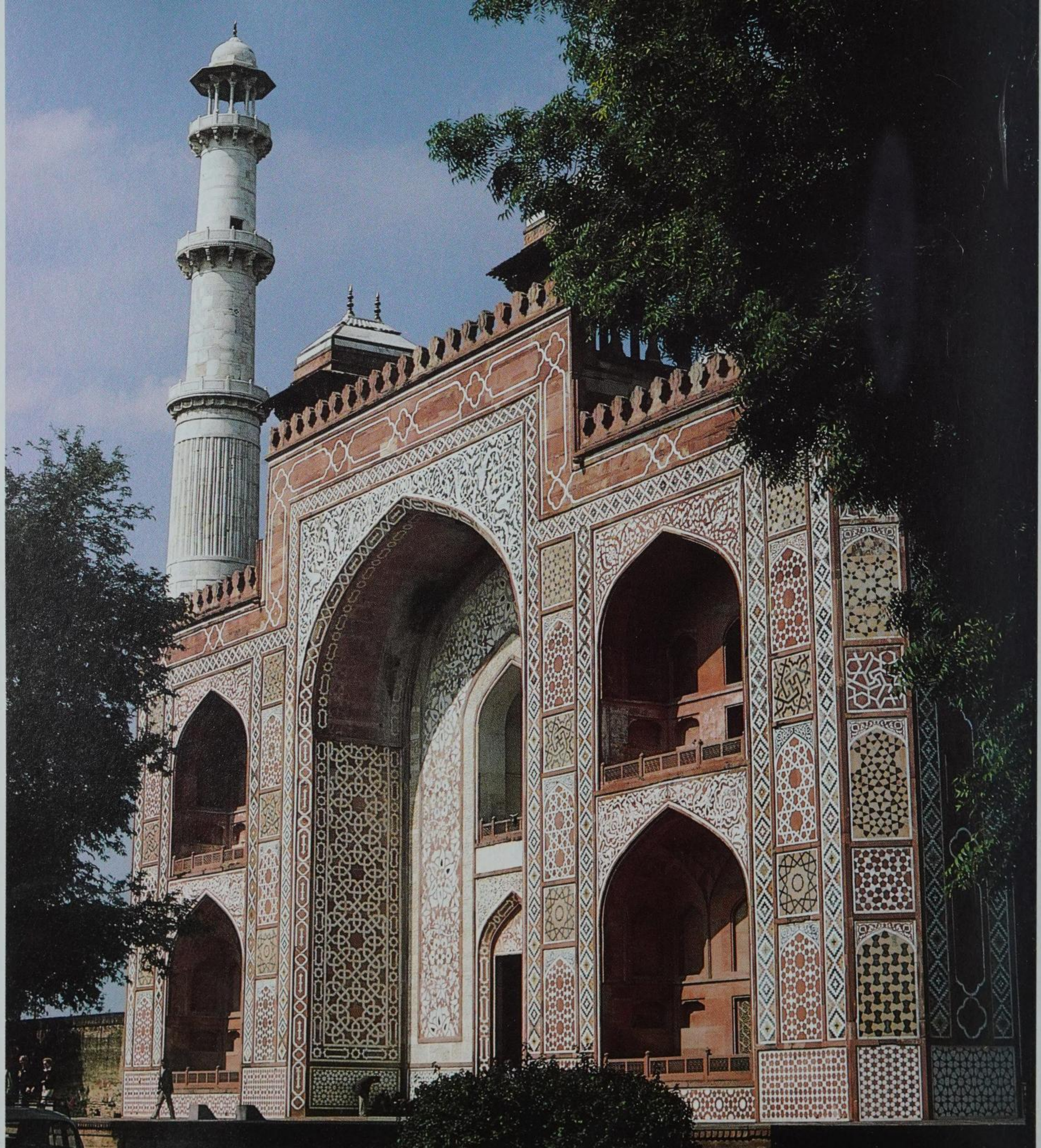
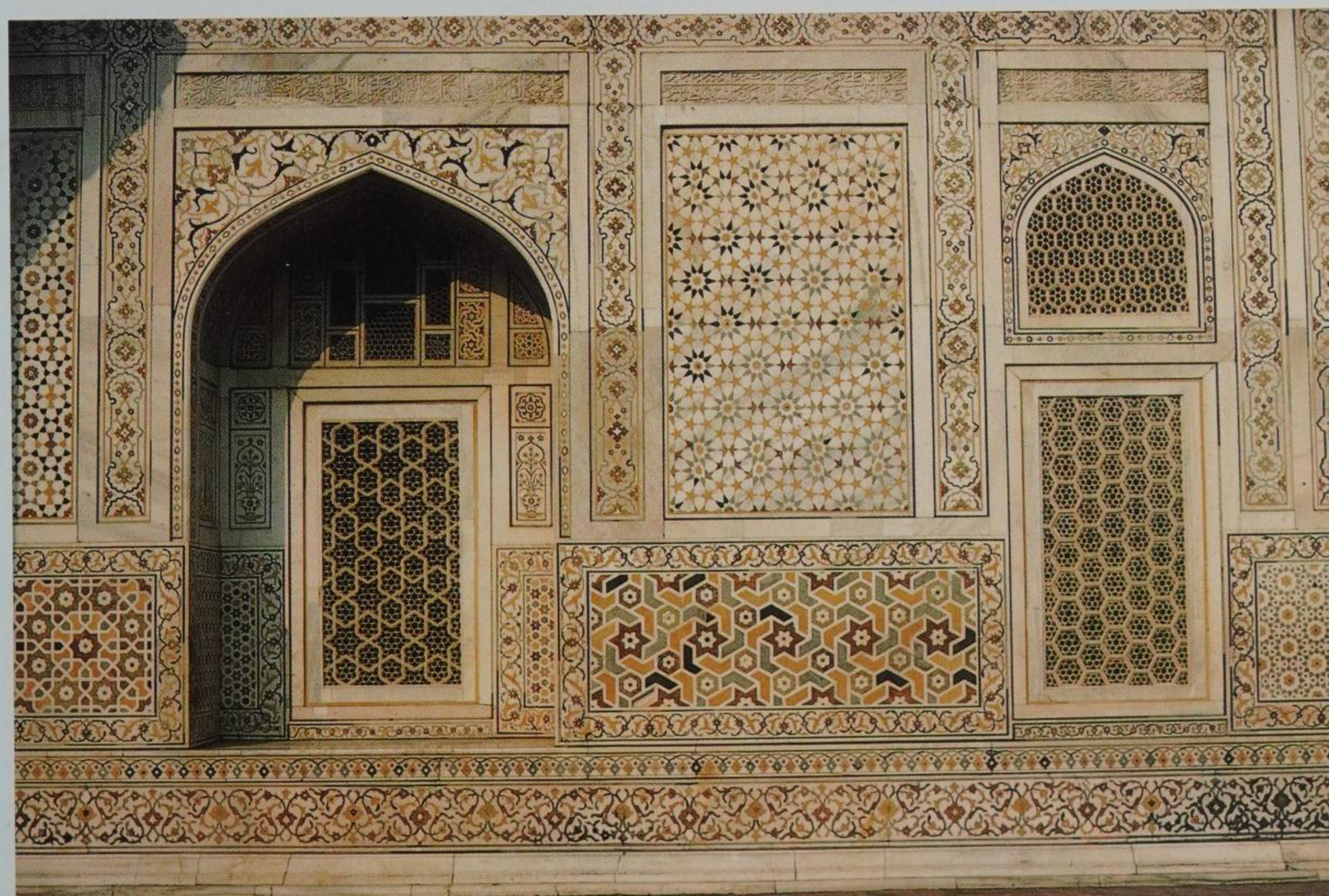


Plate 37. Agra, Sikandra, Akbar's tomb: southern entrance pavilion.

Plate 38. Agra, tomb of Itimad-ud-Daulah **(a)** from east; **(b)** detail of east front.

Plate 39 (overleaf). Kashmir, Lake Dal, Shalimar Gardens: central canal from *diwan-i-am.*

38 (a)



38 (b)

Plate 40. Lahore, Mosque of Wazir Khan from east.

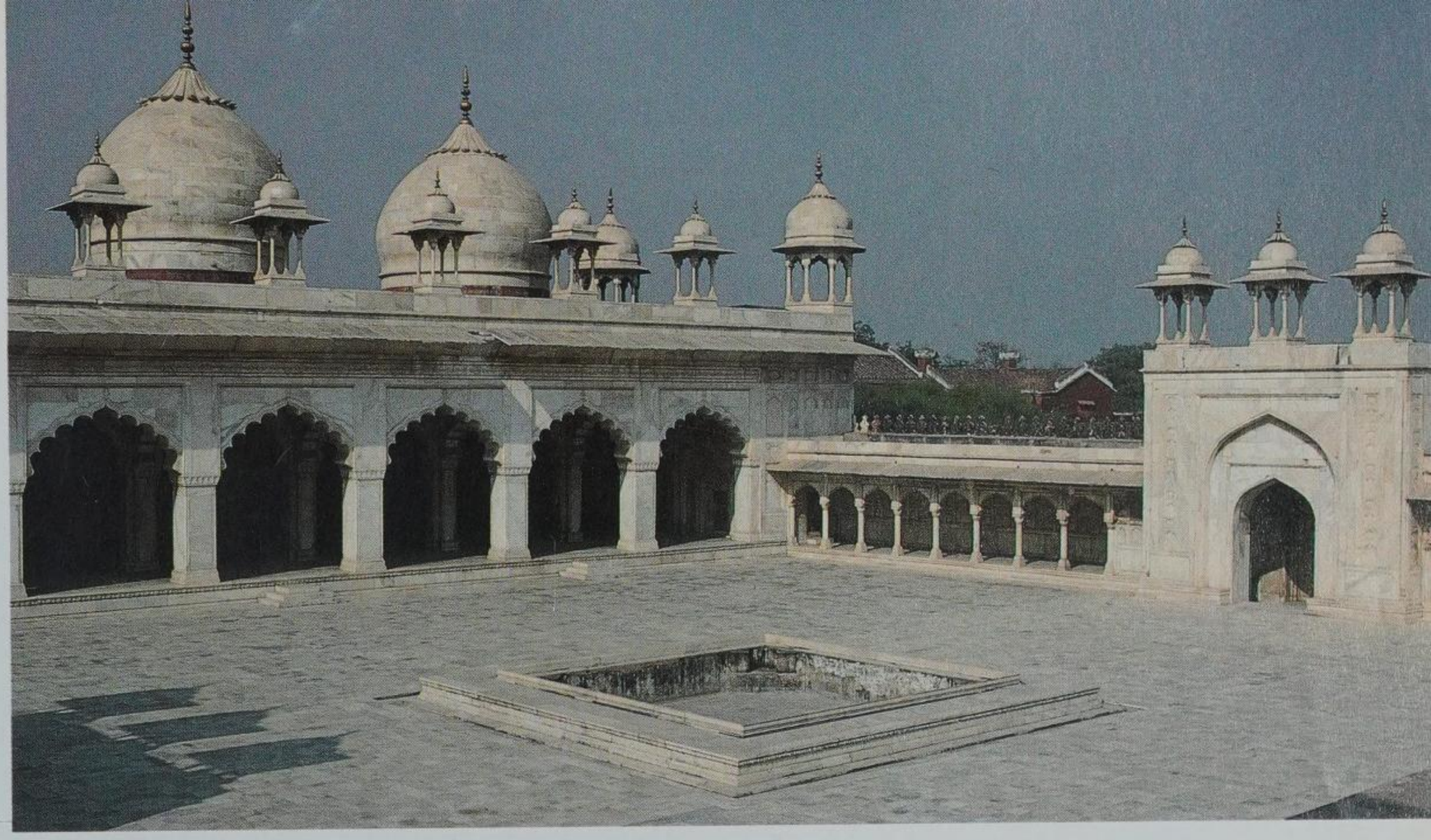
Plate 41. Lahore, Mosque of Wazir Khan: central bay of prayer hall with *mihrab* left.

Plate 42. (a) Agra, Red Fort: Anguri Bagh and *khas-mahal*; **(b)** Lahore fort: *shish-mahal*.

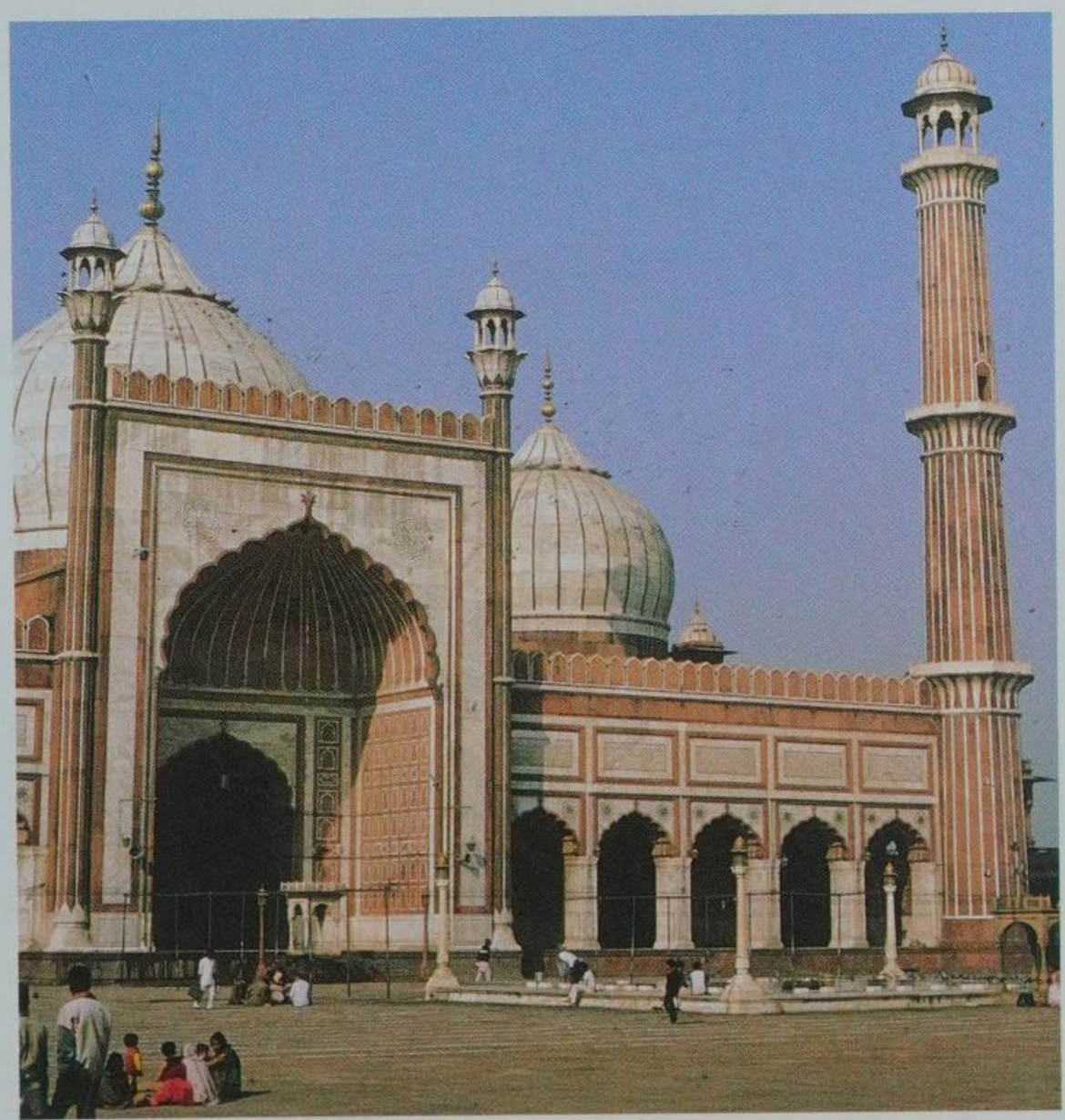
42 (a)

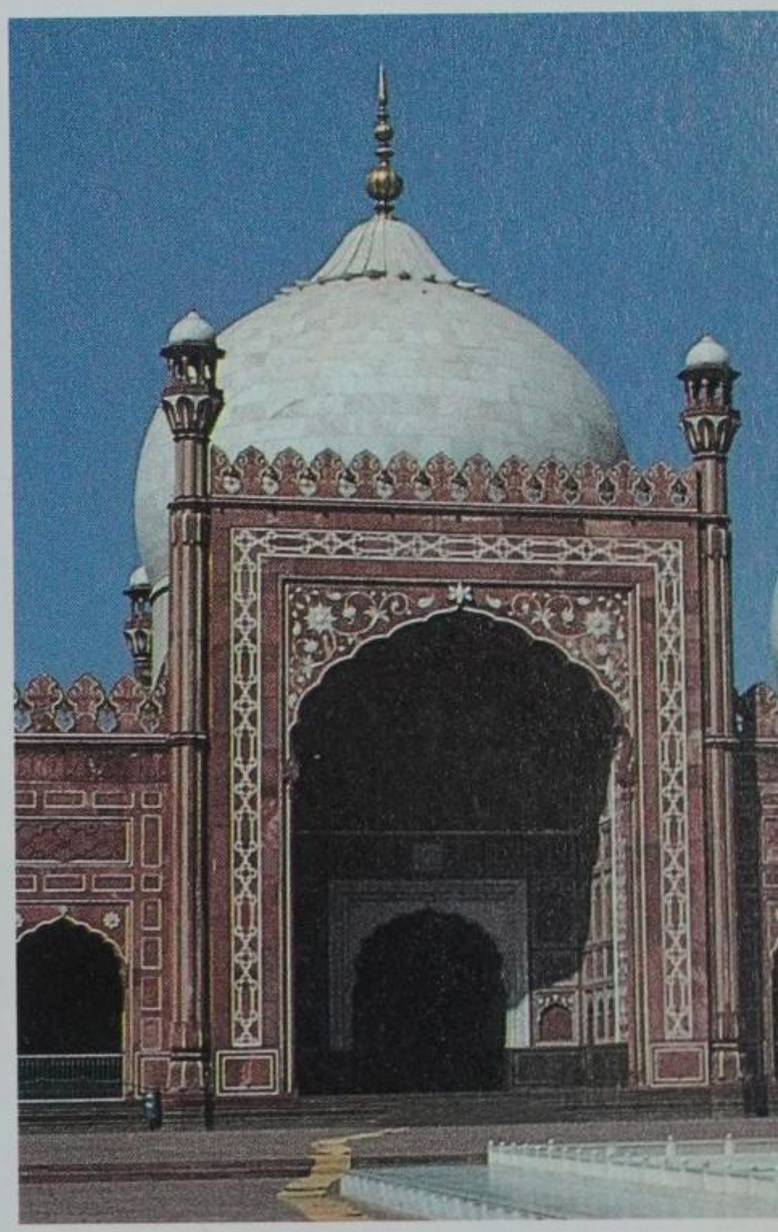
42 (b)

Plate 43. (a) Agra Fort, Mothi Masjid: prayer hall and court from south-east; **(b)** Delhi, Jami-masjid of Shah Jahan: *qibla iwan* from south-east; **(c)** Lahore, Badshahi Masjid: *qibla iwan* from south-east.



43 (a)





43 (b), (c)

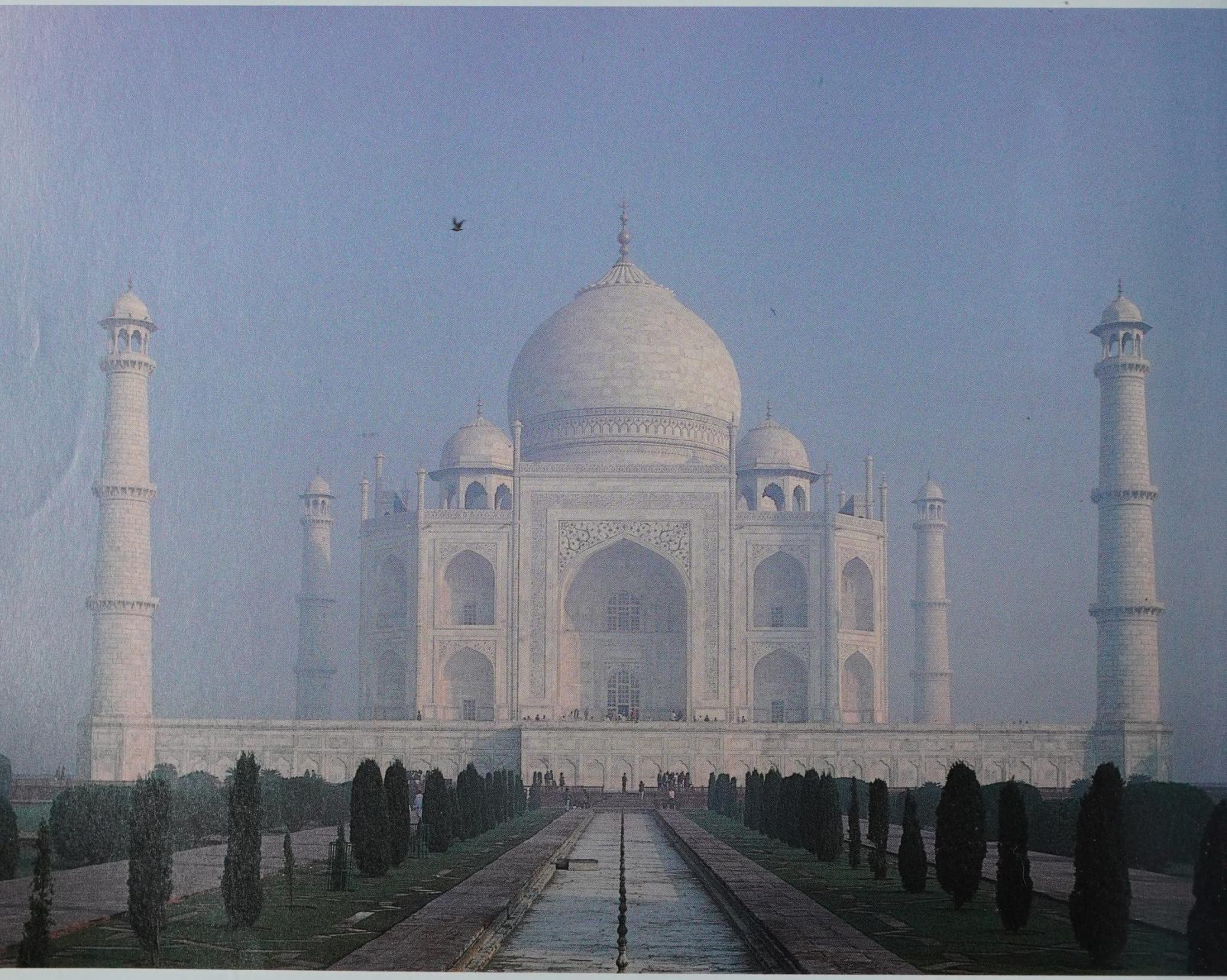
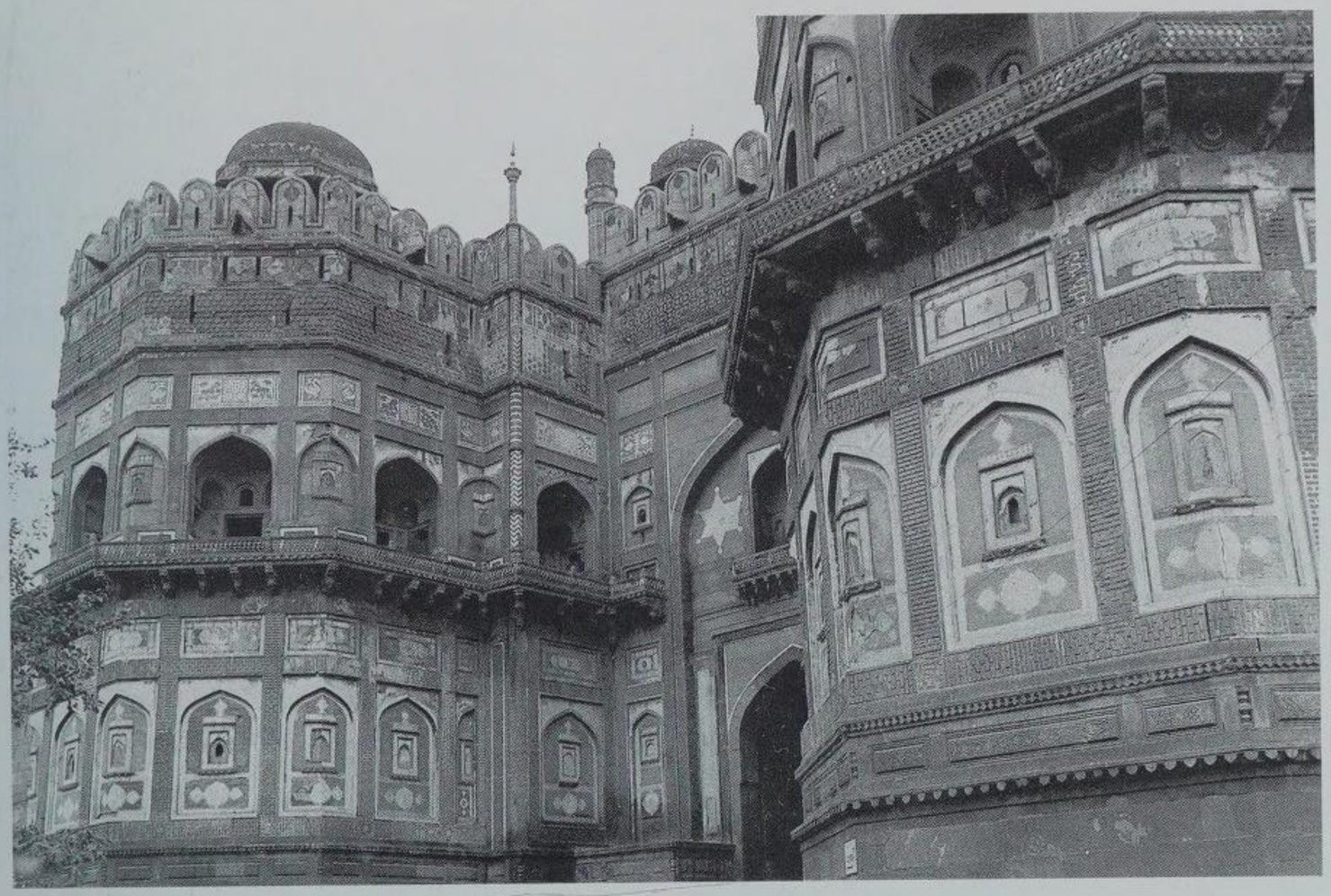
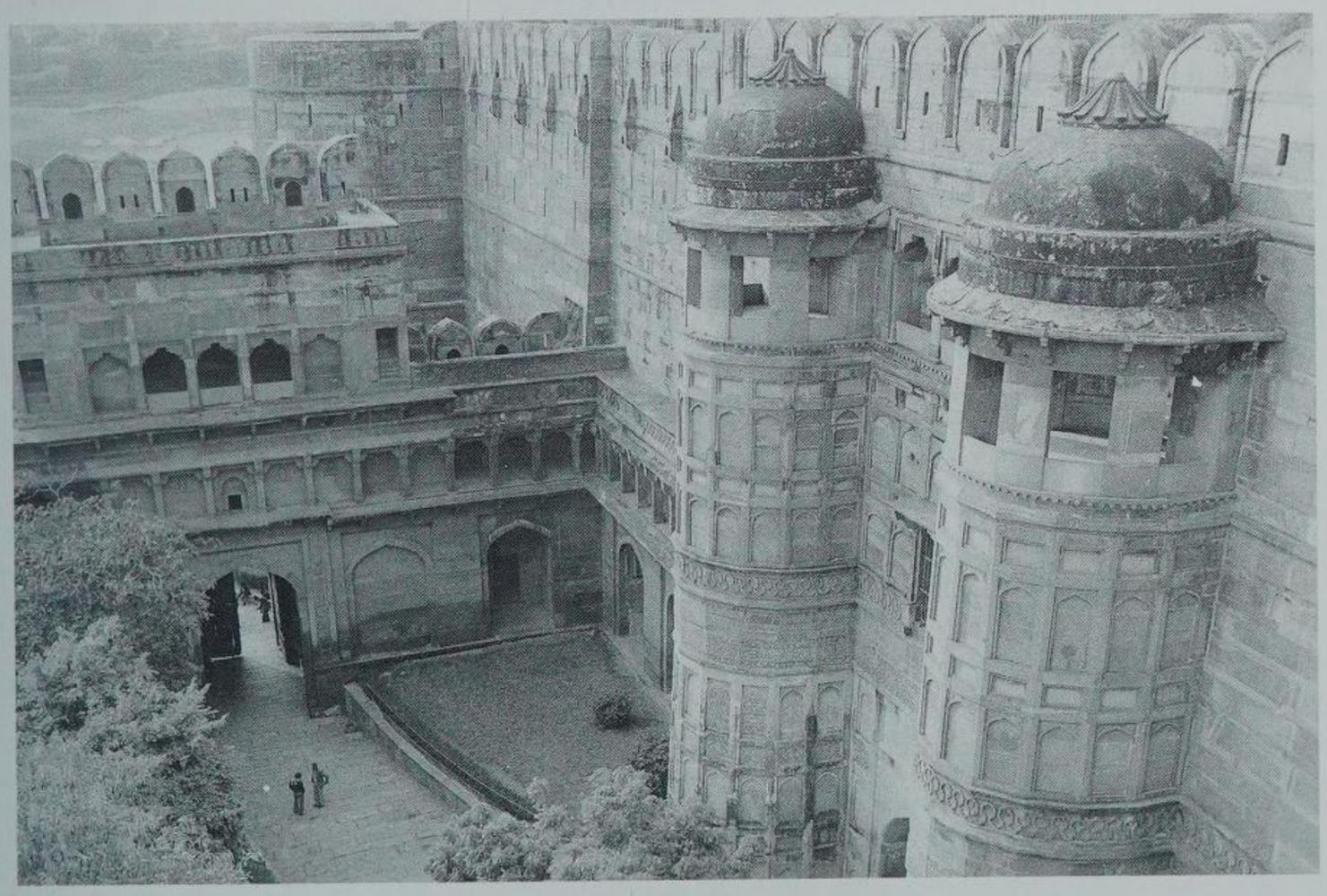


Plate 44. Agra, Taj Mahal: main canal and mausoleum from entrance.



267 (a)



267 (b)

267. Agra, Red Fort: **(a)** Delhi Gate; **(b)** Amar Singh Gate.

water-gate leading to a network of underground passages. On the town side the moated, doubled walls with regularly spaced bastions, are more massive and reach 30 metres in height. Between three string courses there are two rows of slits for marksmen, and in the elegantly arched merlons which fringe the battlements, the upper slits are grouped between hood-machicolations.

The main entrance is the Delhi Gate, to the west. Before the twin-towered Hathi Pol the rectangular barbican has a canted entrance forcing the line of approach up a steep, restricted ramp parallel to the walls and through three obtuse and acute-angled turns. Balconies on indigenous corbels relieve the semi-octagonal, *chattri*-crowned towers. One of the most notable examples of syncretism, symbolizing the indestructible power of the empire, is a panel which shows elephants overcome by a hybrid winged beast, reminiscent of the Assyrian griffin but comparable to the monsters of Hindu iconography, with the neck and ears of a horse, the legs and tail of a lion, the tusks and trunk of an elephant. The Amar Singh Gate to the south is defended by two barbicans, the outer one an irregular wedge between the inner and outer curtain walls, the inner one a rectangle forcing the line of approach through a 90-degree turn. The main portal has an elegant gallery and blind arcading in superimposed tiers, enhancing the sense of height already drawn from the compact massing though the turrets rise no higher than the battlements.[40]

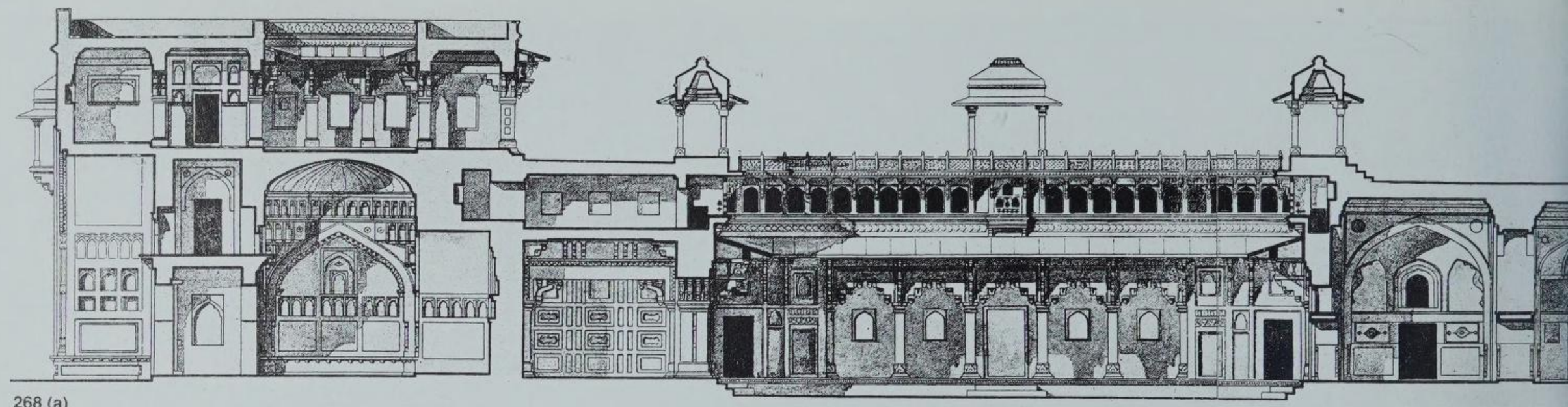
Akbar's appreciation of the resources of indigenous artisans is explicit in the official record of the construction of 'upwards of 500 edifices of red stone in the fine styles of Bengal and Gujarat'. Of these few survived Shah Jahan's transformations of the major metropolitan forts, other than the *hasht behisht* in the regularly planned fort at Ajmer, the *chihil sutun* of Allahabad and the so-called Jahangiri Mahal which was the main element in the *haram sara* at Agra.

Hindu in character, indeed clearly inspired by the Gwalior Man Mandir to meet the domestic exigencies of the Hindu household, the Agra Jahangiri Mahal consists of courts surrounded by varied halls and chambers on two levels with terraces and pavilions above, *serdabs* and below, a network of passages. The plan, however, is symmetrical along the clearly defined central axis from the entrance with its striking coloured *iwan* frontispiece, through the square central court to the recessed terrace overlooking the river. Something of the great Caliphate tradition of palace planning survives in the way service zones isolate the central group of reception spaces. Inside, the rich elaboration of the indigenous trabeated system often varies themes stated at Gwalior and the effect drawn from fine inlaid stonework is typical of early Mughal work but the surface relief is essentially Persian in motif.

35(b)

172(c)

If continuous use meant continuous change at the principal imperial seats, the very non-viability as a permanent capital of Akbar's own foundation at Fatehpur Sikri, initially in honour of the emperor's favoured Sheikh Selim Chisti, was the prime condition for the survival of his work there in most of its essentials. The lake and 6 kilometres of wall with eight twin-towered gates protected the new town – or would have done



268 (a)

had the wall been completed. Of the town little survives other than the bazaar between the Agra Gate and the *naubat-khana* where the imperial band announced the emperor's public audiences. The ridge above is crowned by the palace and the great imperial mosque beside Sheikh Selim's *khanqah*. The palace, placed diagonally across the ridge parallel to the *qibla* of the mosque, had four parts according to contemporary records: the emperor's quarters, *daulat khana*, in the centre; the *haram sara*, adjacent to the west; an establishment for the princes and a magazine. In its distribution Akbar followed the example set by his Timurid ancestors but most of the more sumptuous pavilions are Indian, specifically Gujarati, in structure and style.[41]

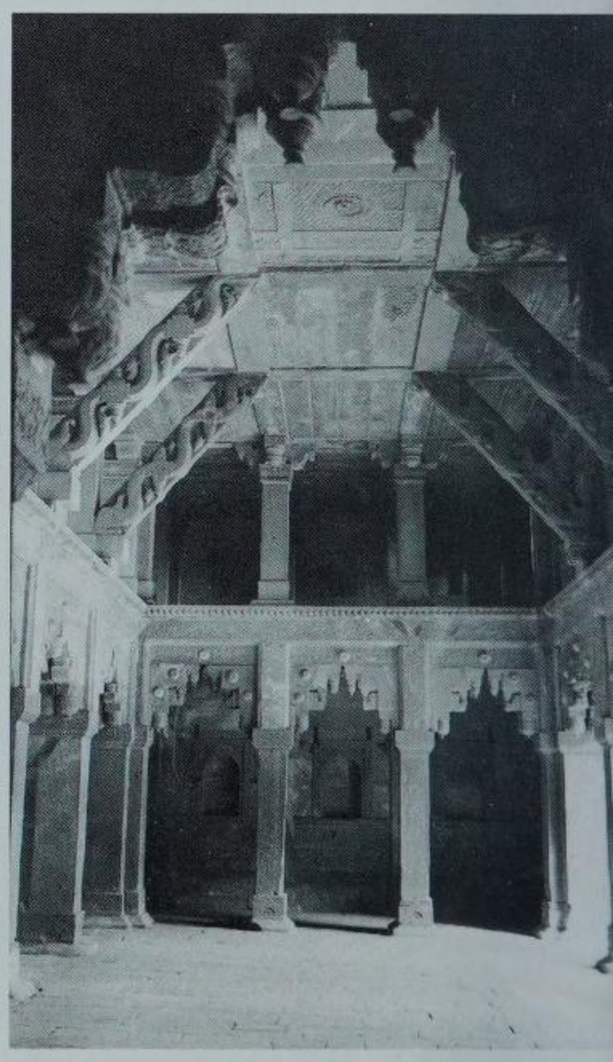
Walled for distinction and security rather than defence, the palace compound was usually entered by the emperor and his retinue through the Hathi Pol facing the lake to the north-west, where the imperial *caravansarai* and polo ground were sited. The public gained entrance from the market place to

268. Agra, Red Fort, Jahangiri Mahal: **(a)** section (after Reuther); **(b)** entrance front; **(c–d)** halls flanking court.

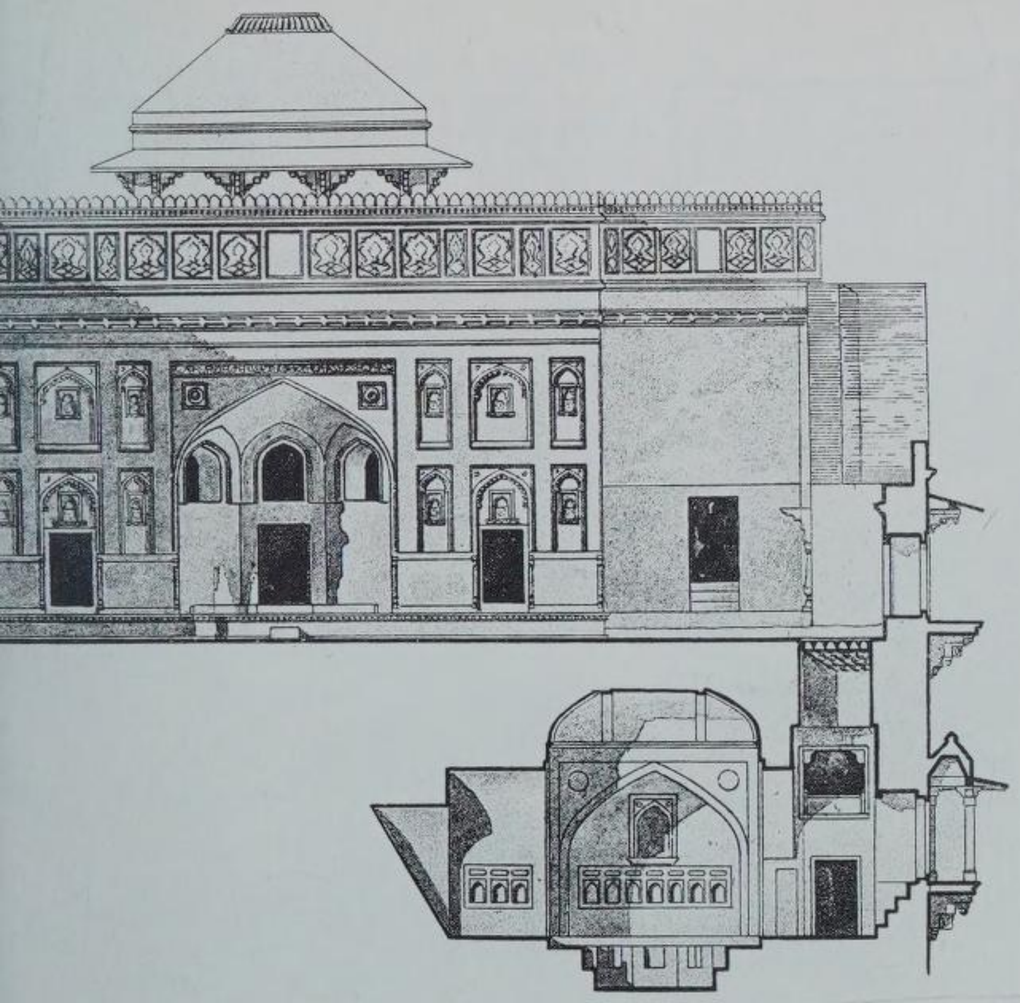
269. Allahabad fort: audience hall of Akbar.

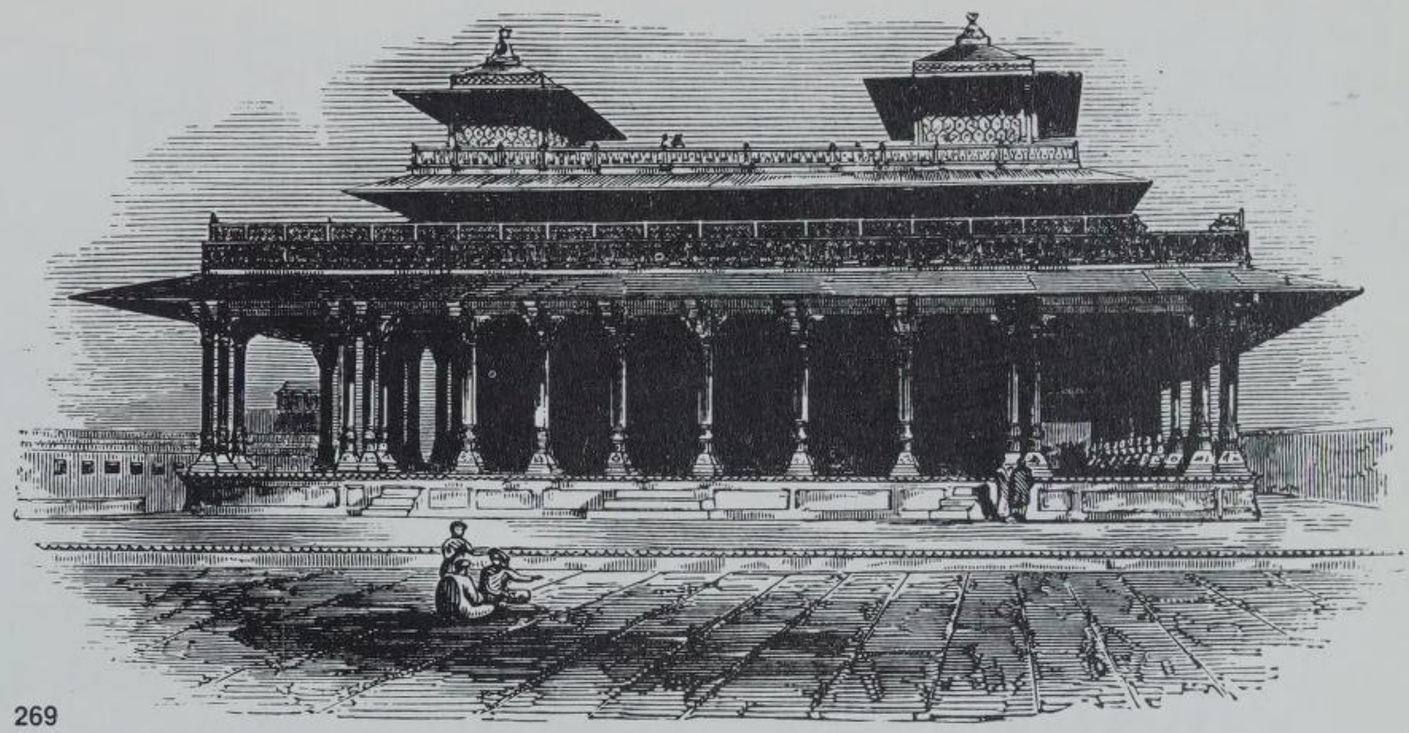
270. Fatehpur Sikri, site plan (1:20000): **(a)** Delhi Gate; **(b–h)** gates in town walls; **(i and inset)** Hathi Pol; **(j)** *caravanserai*; (k) Hiran Minar; **(l)** palace; **(m)** Badshahi Masjid.

268 (b)



268 (c)





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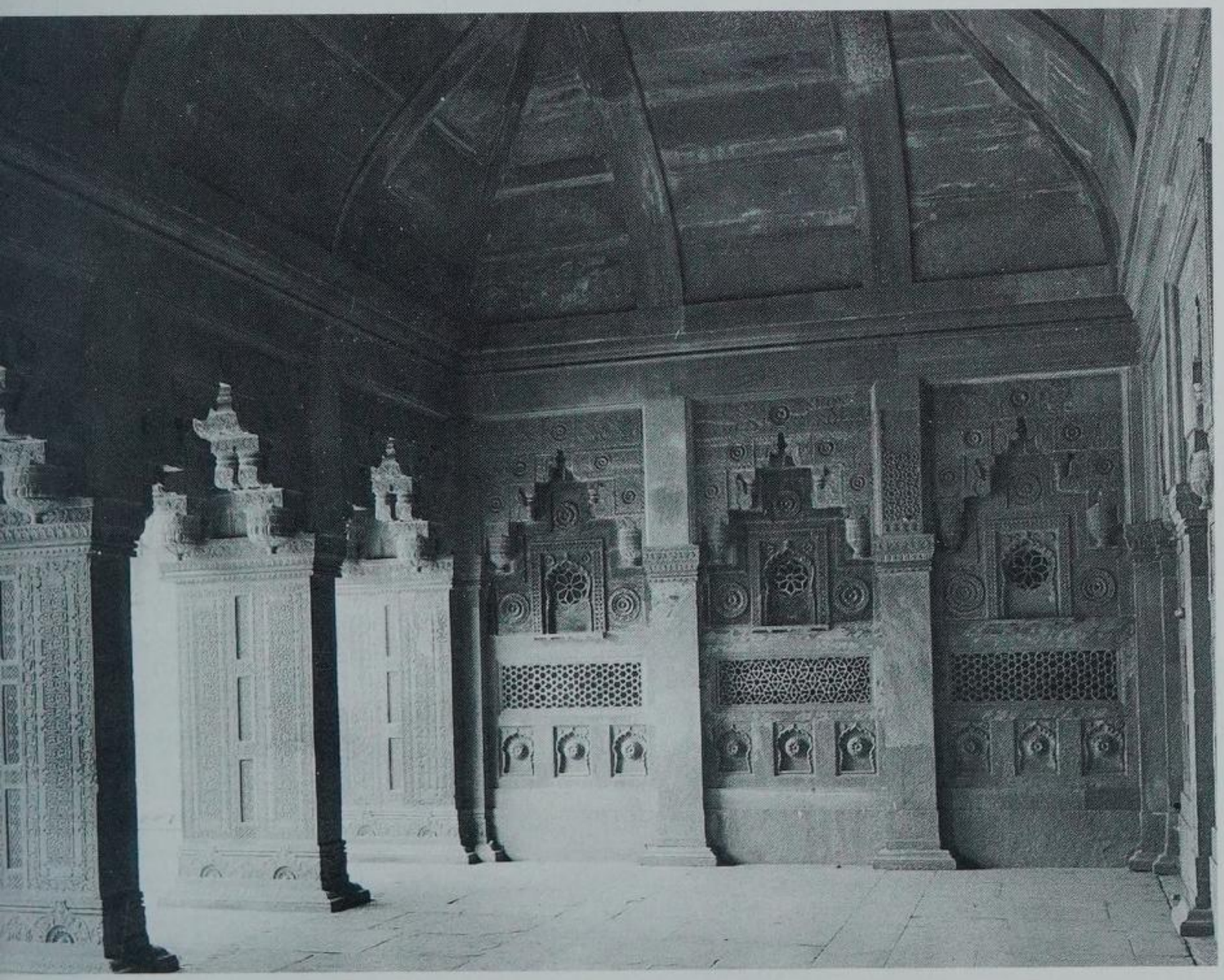
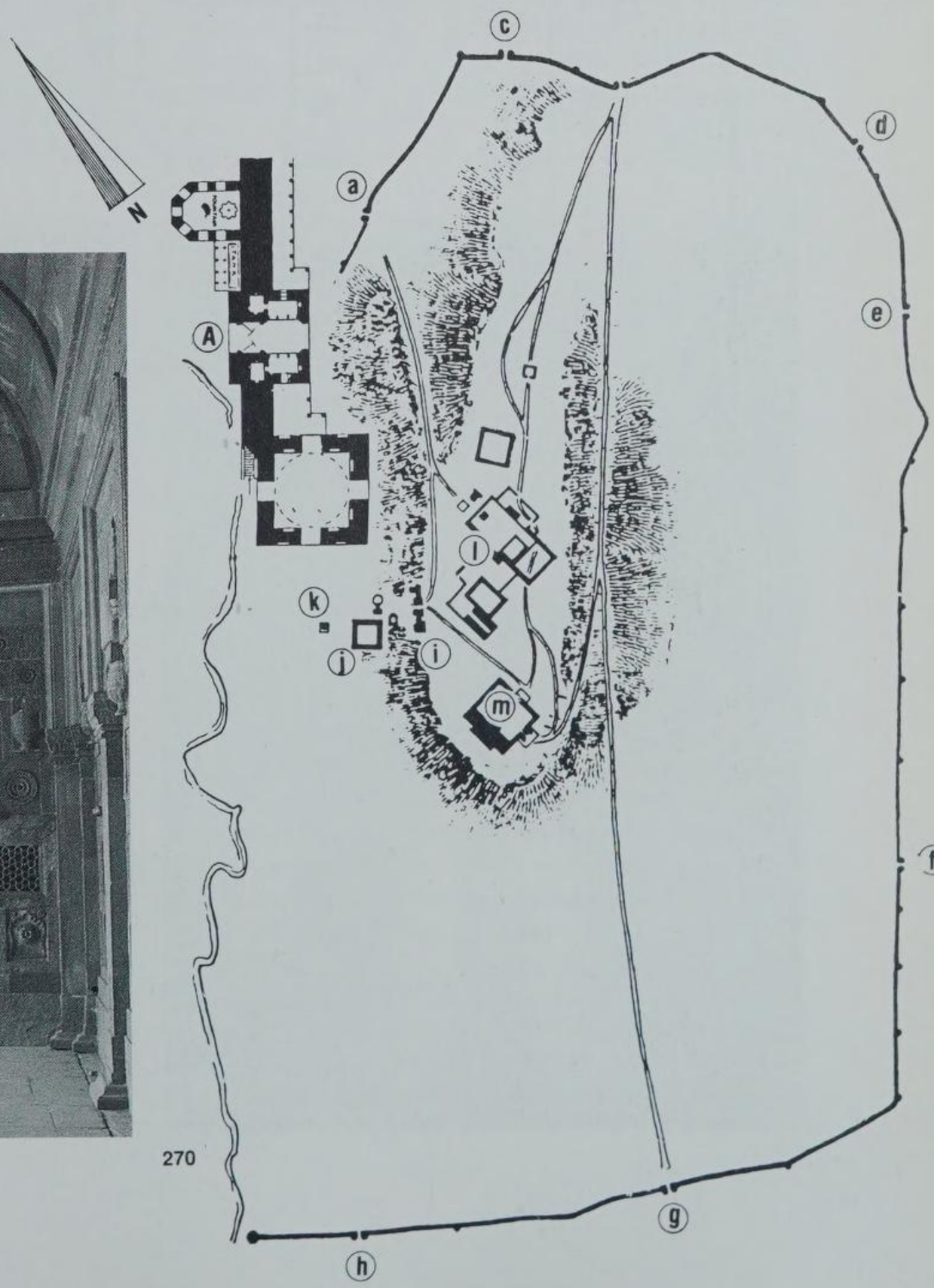


268 (d)



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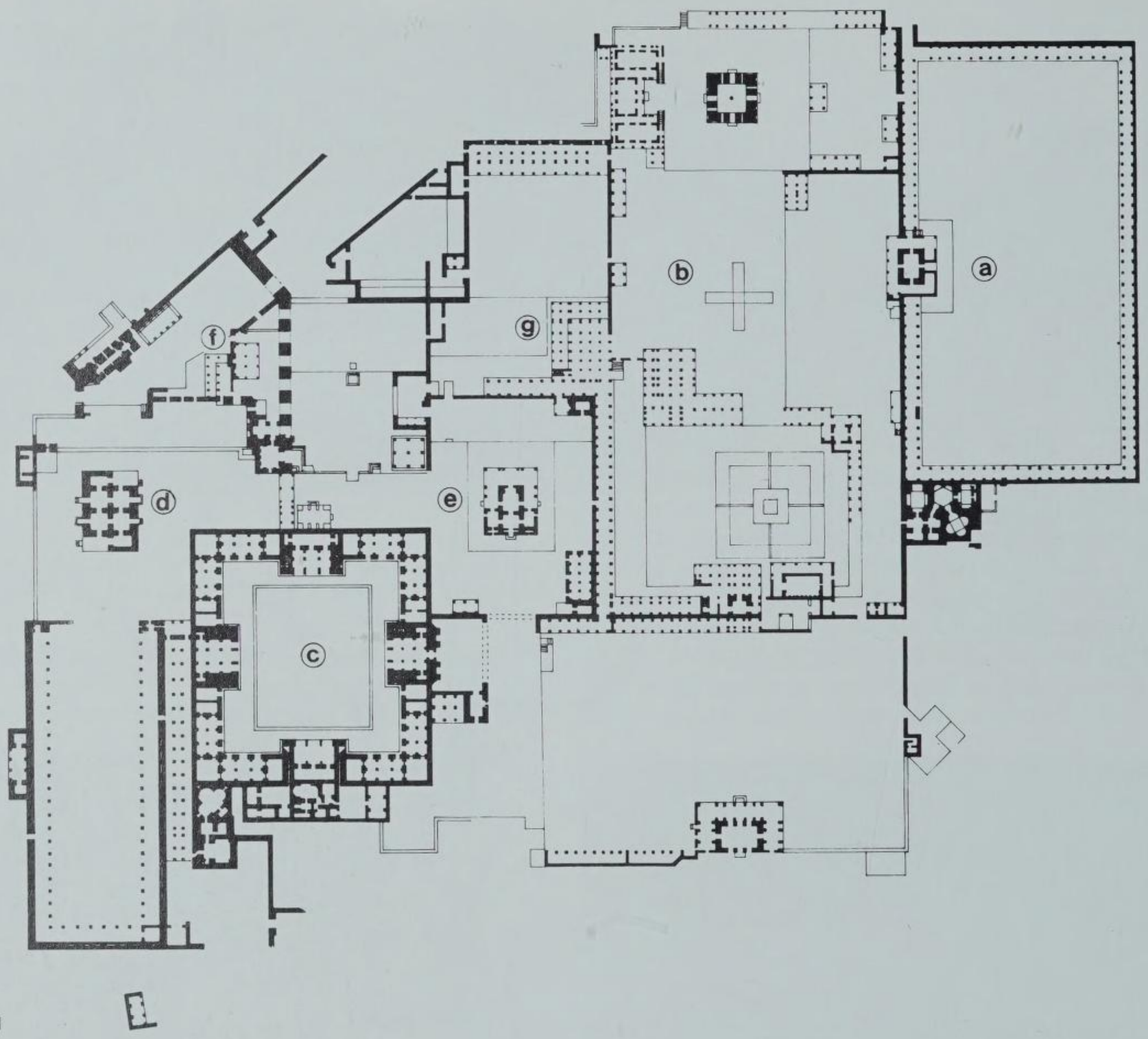


271

271. Fatehpur Sikri, palace plan (1:2000): **(a)** *diwan-i-am* and court of public audience; **(b)** *daulat khana* with Anup Tala'o court of emperor's private apartments south and so-called 'Diwan-i-khas' north; **(c)** principal *haram sara* building (so-called 'Jodh Bai's Palace'); **(d)** so-called 'House of Birbal'; **(e)** 'House of Maryam'; **(f)** Nagina Masjid; **(g)** Panch Mahal.

272 Fatehpur Sikri, *daulat khana* court: (**a**) Anup Tala'o and emperor's private apartments; **(b–c)** so-called 'Diwan-i-khas', interior and exterior, Panch Mahal in background.

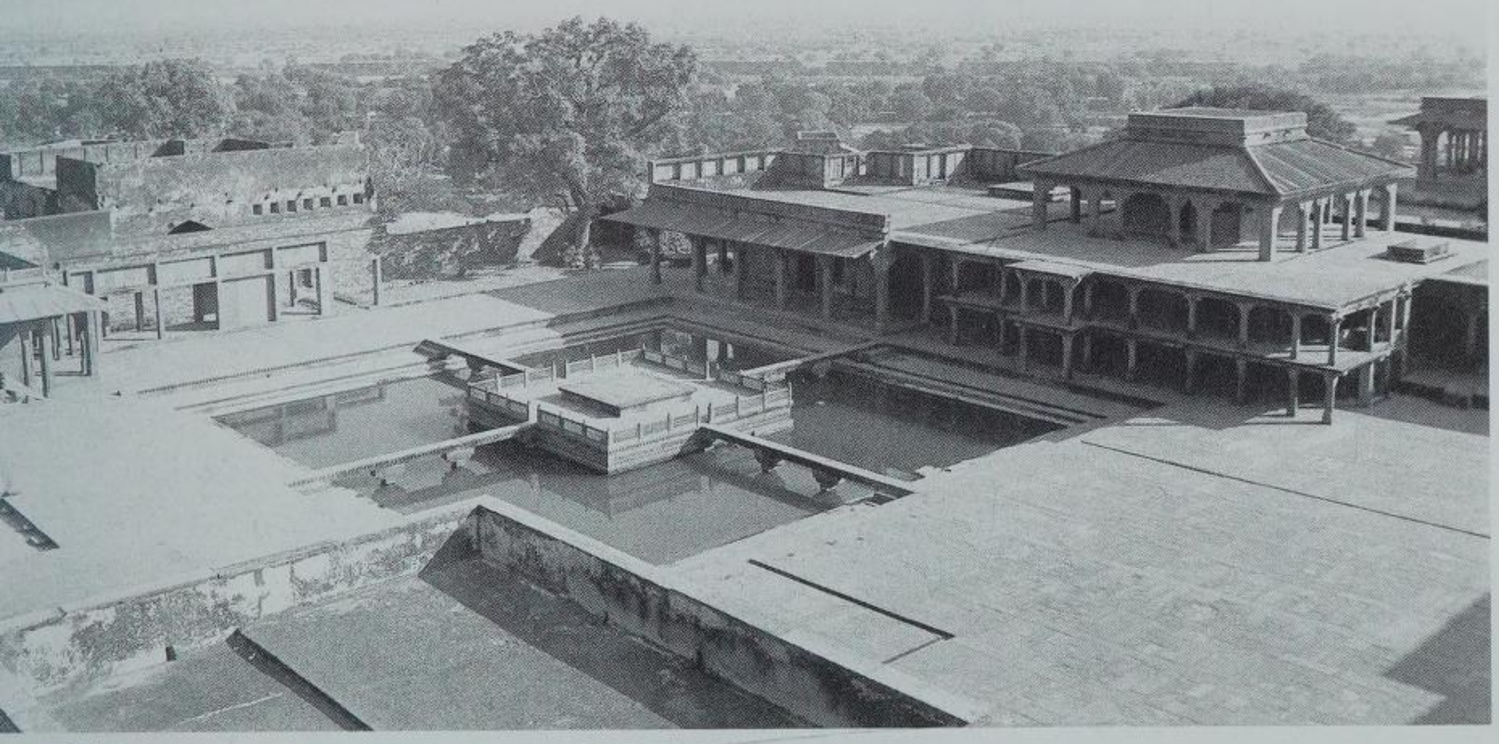
the east through a triple gate to the outer court of the *daulat khana*, the *diwan-i-am*, where – still in accordance with Kautilya – public audience was held daily. The five-bay audience pavilion, raised in the centre of the west side, had a screened central compartment which the emperor entered from the *daulat khana* garden immediately to the west. Formerly walled, this garden shared the central zone of the tripartite *daulat khana* compound with a broad terrace providing the open space before the imperial apartments which was an essential feature of Timurid palaces and imperial Indian camps – the rather crude cruciform platform for the game *pachisi* is probably late.

Occupying the southern zone, formerly enclosed with cloisters between its pavilions and cooled by the square Anup Tala'o tank, the principal *daulat khana* court is the nucleus of the emperor's private apartments. The bath house is to the east. The north-west pavilion was presumably for the service of the imperial table and the north-east pavilion, sumptuously adorned with flowers, fruit and simulated hangings depicting gardens, was an informal withdrawing place. Facilities for suspending awnings on this and other buildings in the complex make it clear that the covered area was often expanded into the most sumptuous of tent palaces. The main block of the emperor's apartments, to the south, has a single, elegant *baradari* over a walled, once richly painted cabinet and a semi-enclosed chamber with a dais. The *baradari* was Akbar's retiring room. The cabinet was probably used for dining. As contemporary records of the emperor's private audiences suggest that the *diwan-i-khas* was within the private apartments, it seems likely that the dais chamber was its principal element. The dais stands before a window overlooking the subsidiary court containing the imperial records office.[42]

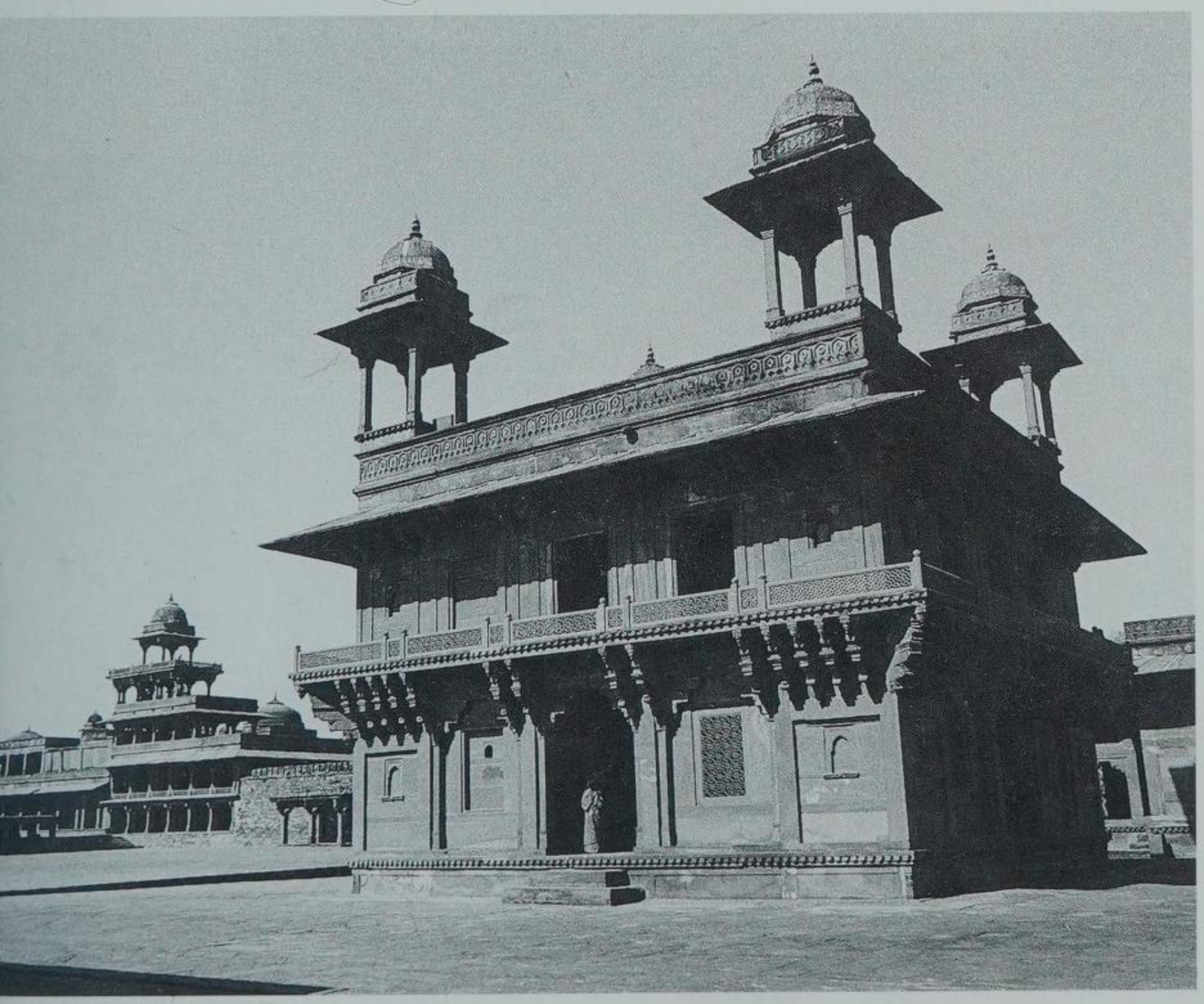
The northern *daulat khana* zone has a range of building to

the west which include a lavish Gujarati style pavilion and the celebrated free-standing, two-storey structure with balconies, *chadyas* and *chattris* traditionally called the 'Diwan-i-khas'. The outstanding feature of this building's interior is the central pillar with fantastic capital of radiating serpentine brackets which bears a circular platform connected by narrow bridges to the corners of the surrounding gallery'. The transition from square to rectangular blocks in its shaft is characteristic of the Hindu approach but the introduction of Persian motifs – stylized floral and chevron patterns – was to provide the key to the evolution of the 'Order' most popular under Akbar's successors. As in the great *baradari* of Allahabad – or the tomb of Selim Chisti in the Badshahi Masjid at Fatehpur Sikri – the base block was given the contours of the most prominent, fan-shaped motif and, though remaining square in plan, took on a bell-like profile.[43] *35(c)*

A screened viaduct once connected the emperor's private apartments with the principal buildings within the *haram sara* compound, where Akbar slept. A large, introverted quadrangular structure, its single gate is a domestic expression of the double bastion portal with offset entrance and exit of the type familiar in military works. It recalls the scheme, if not the scale, of the Raj Mahal at Orchha, and 262



272 (a)



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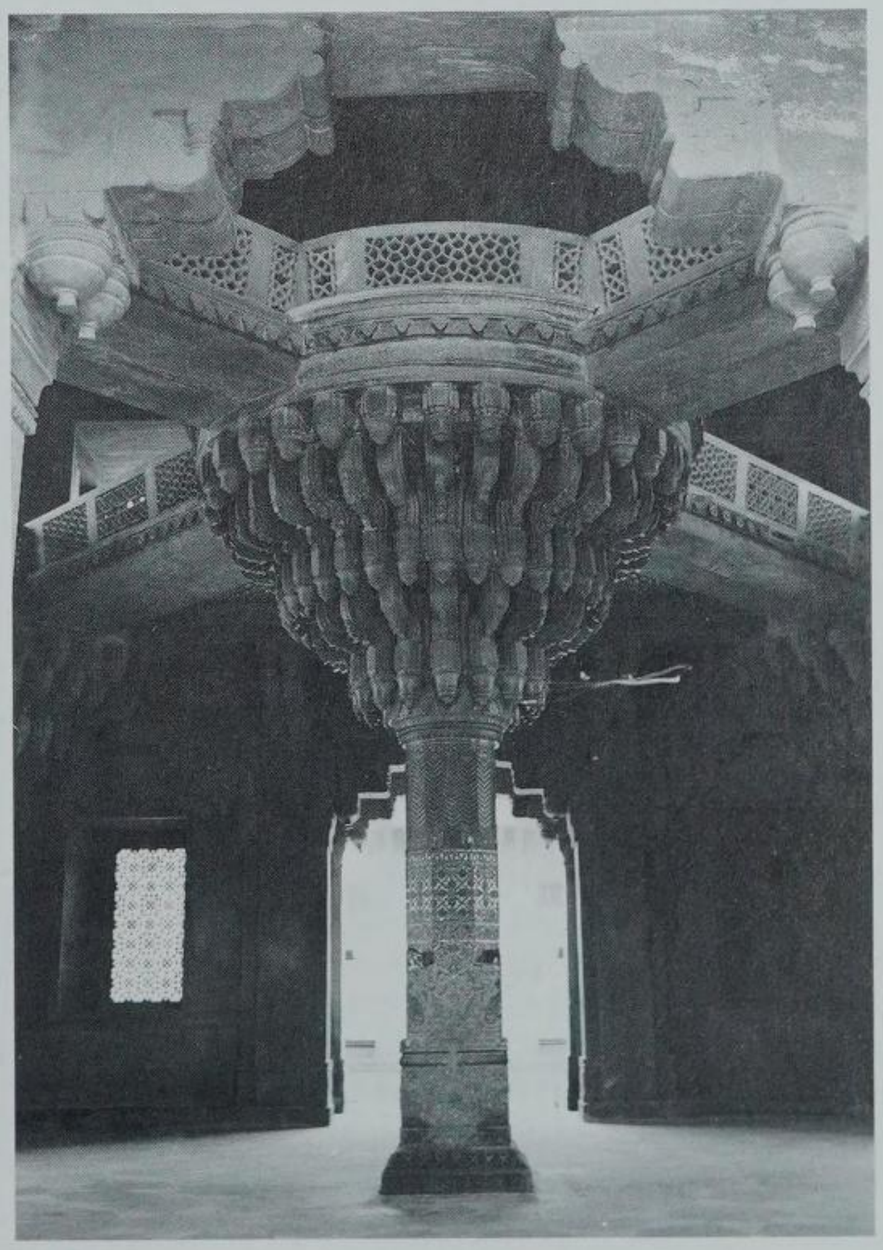
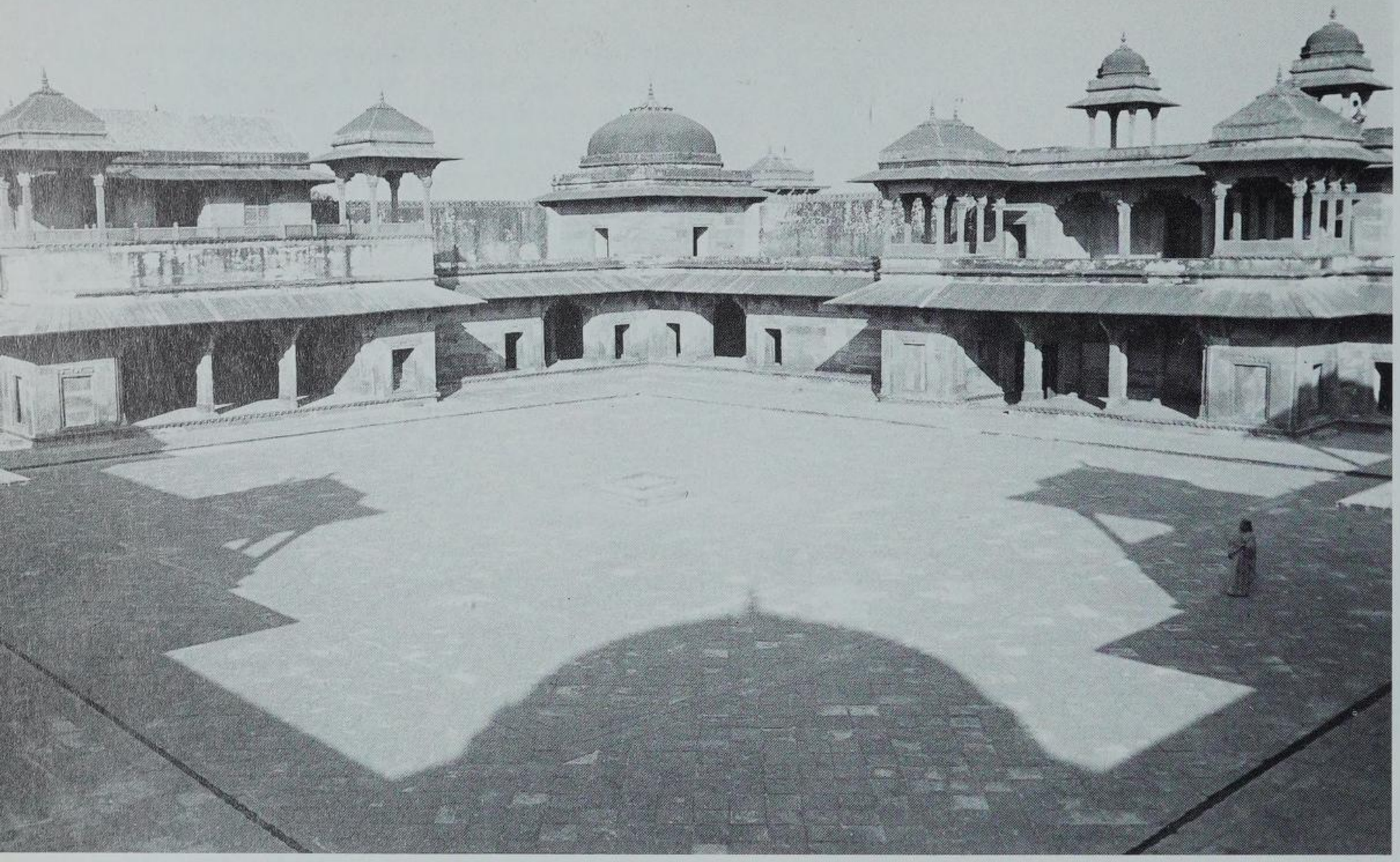


272 (c)

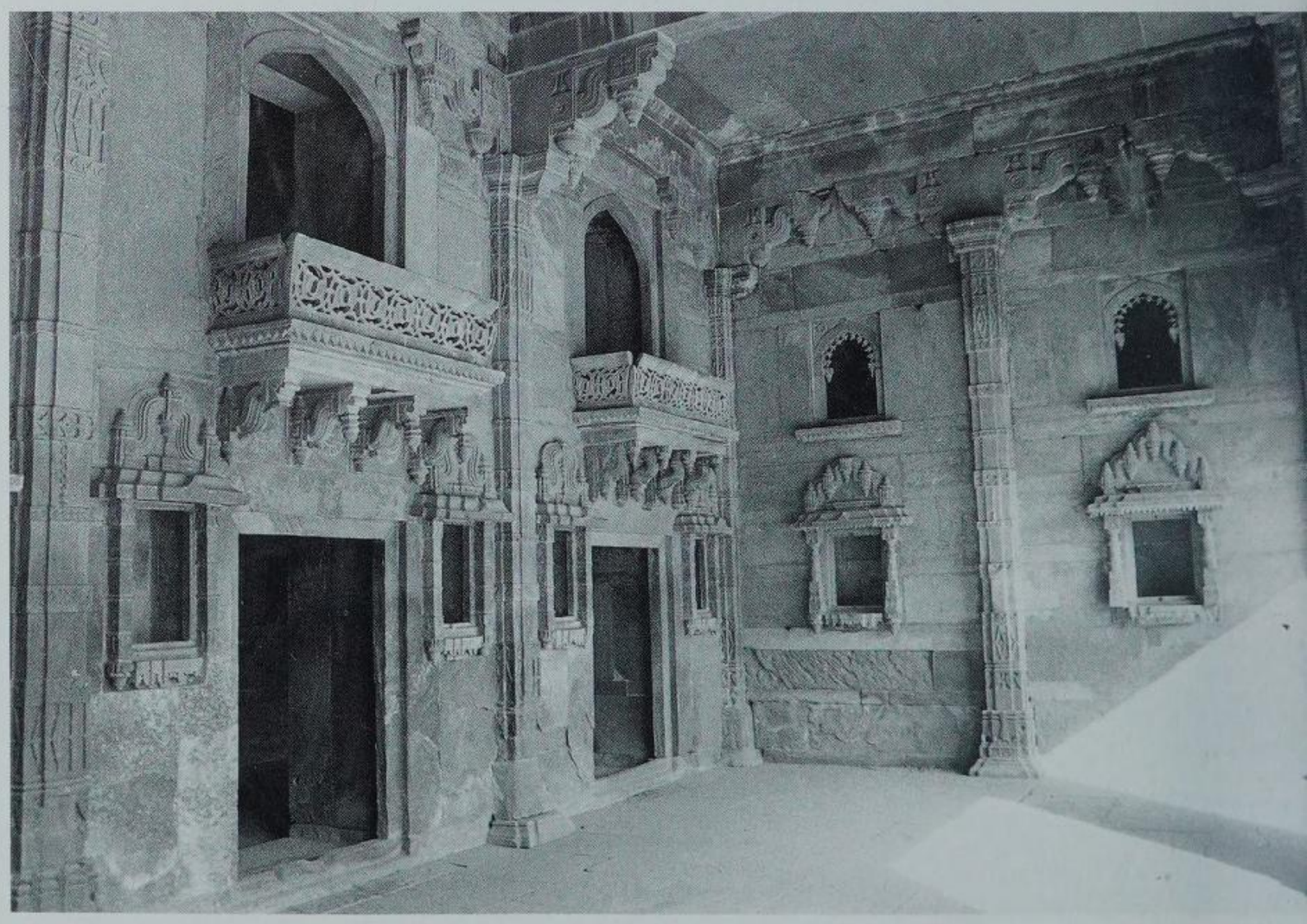


273 (a)

273. Fatehpur Sikri, *haram sara*: **(a-b)** court and hall in central pavilion north range of so-called 'Jodh Bai's Palace'; **(c)** detail of ornament in so-called 'House of Birbal'.

anticipates the suppleness with which that scheme was to
262 be transformed under Bir Singh Deo. Apartments were provided in wings separated by pavilions in the centre of each side and at the corners – canopied and domed respectively. The building was probably for Akbar's Rajput establishment, and the central pavilions contain grand reception rooms enriched with a wide range of motifs, mainly Hindu in origin. The carving is assertively Gujarati but in conjunction with deep *chadyas*, the low pitched roofs of the central pavilions produce an almost Kashmiri effect – though the azure blue tiles are Malwan and the combination of materials recalls Gwalior. Attached to the south wall is a block containing bathrooms and latrines. To the north is an elegant two-storey structure, the upper level screened, forming a breeze-chamber (*hawa-mahal*), beside which a screened viaduct led circuitously to a lakeside tower (Hiran Minar) beyond the Hathi Pol, providing the women with access to pavilions beside the water.

Flanking the main block to the north-east and west are isolated pavilions which probably housed the emperor's mother and principal non-Rajput wives. The south-west *haram sara* enclosure is occupied by a large court, probably for attendants. To the north of the main block are the ladies' secluded mosque (Nagina Masjid) and gardens. East of the gardens is the Panch Mahal. Once screened with *jalis* to



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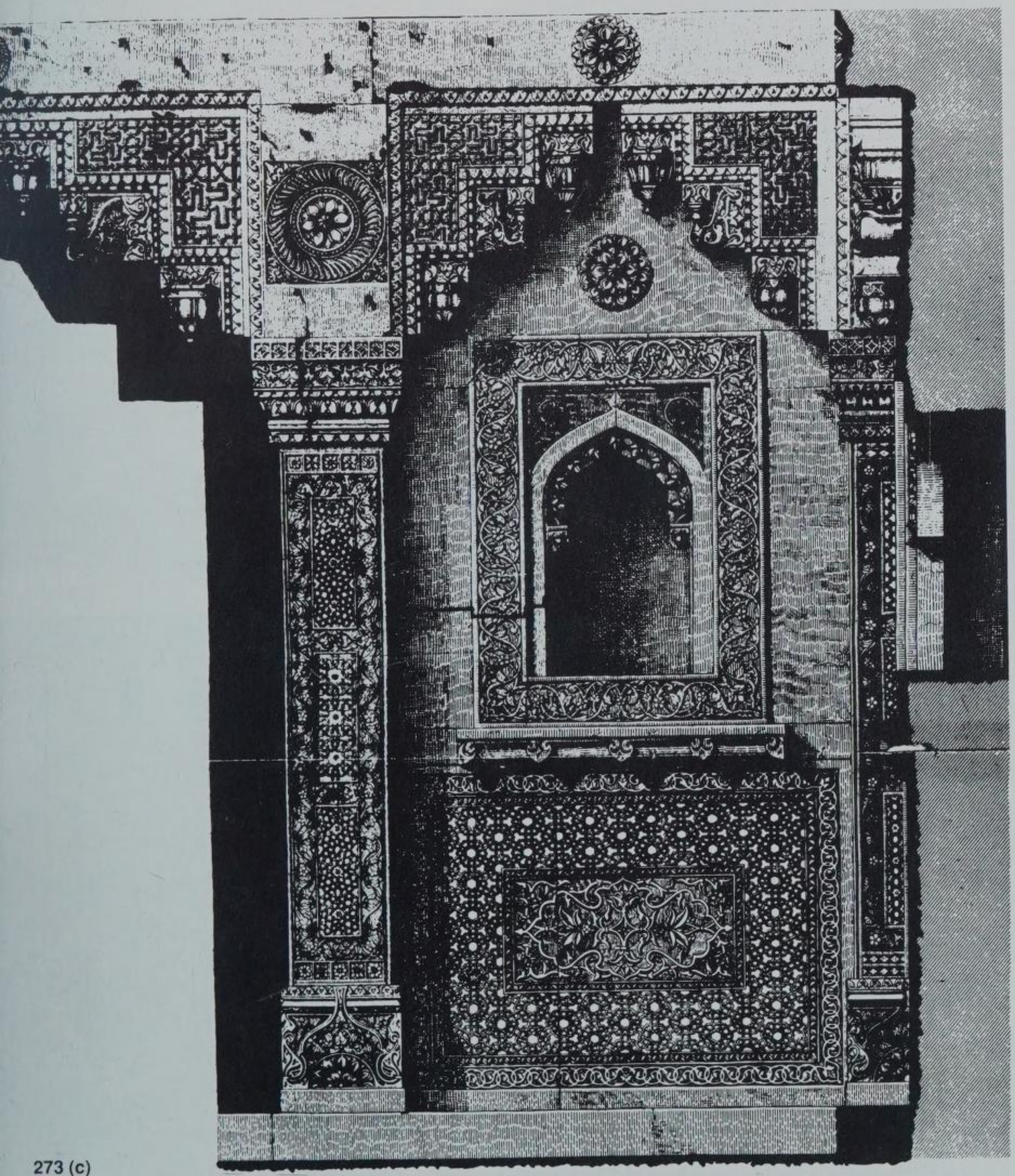


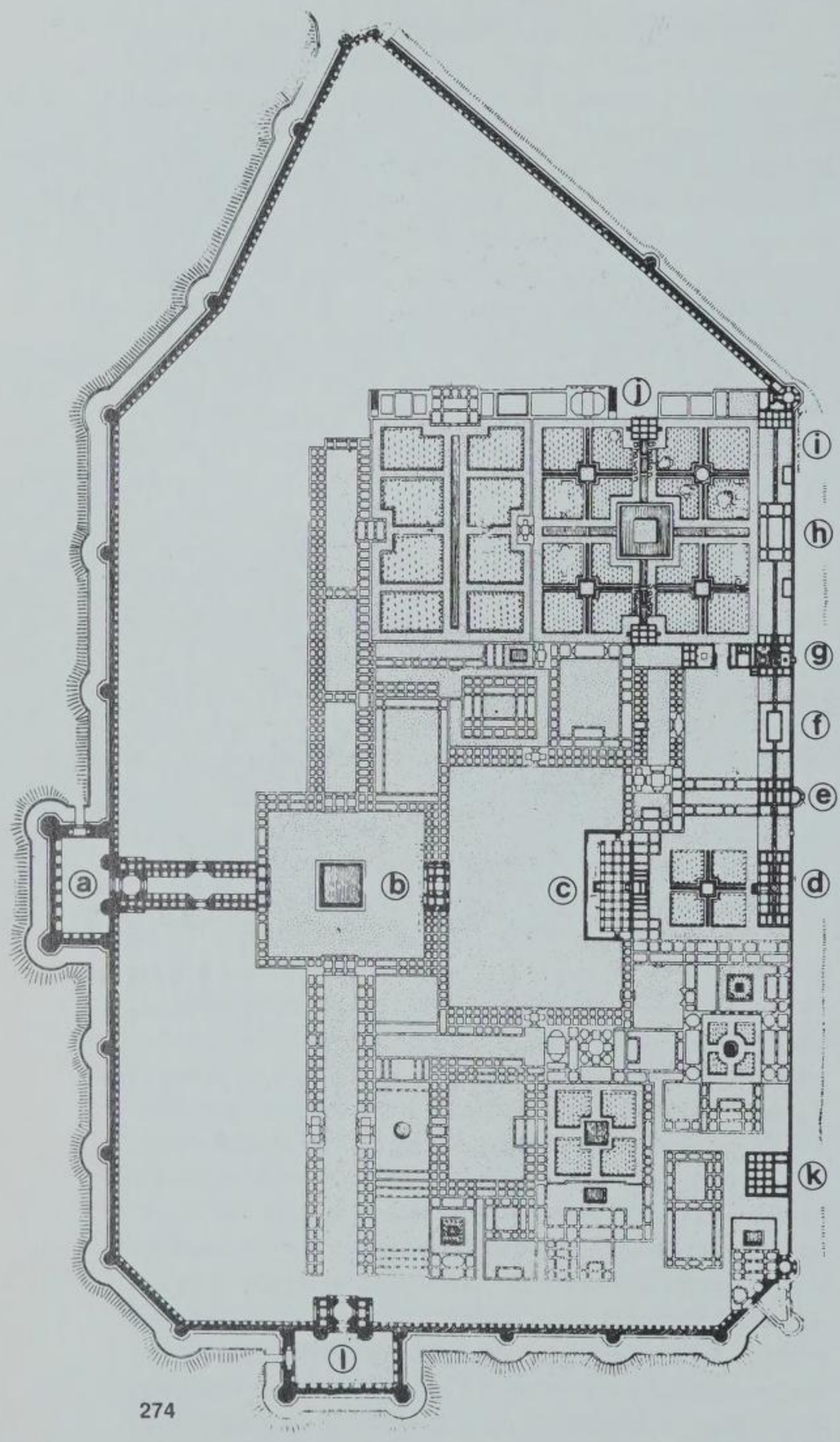
273 (c)

provide a secure zone of transition from the *daulat khana* court to the *haram sara* gardens, this structure of five diminishing tiers – yet another permutation of the *prasada* – dominates the entire complex.[44]

Hardly had it been completed when Fatehpur Sikri's water supply proved inadequate. The new city was abandoned and Akbar's court thereafter moved regularly between Agra and Lahore. His son, Jahangir, was not a notable builder but Jahangir's son, Shah Jahan, was one of the world's greatest patrons. He began his building career as viceroy in Ahmadabad, setting a standard in the Shah-i-Bagh palace to be emulated by the later governor A'zam Khan. After his accession, he transformed the two principal imperial forts and built the seventh Muslim city of Delhi, Shahjahanabad. Most of the work done for him is much more rigorously formal in organization than its Delhi precedent, Firozabad, or any of its predecessors in India's imperial capitals. The emperor is known to have reviewed the plans of Baghdad and, though trabeated in structure and dominated by *baradaris* or *talars* recalling the tents of his ancestors, his palaces descend from the great Caliphate complexes in their distribution. The construction of Shahjahanabad was pressed relentlessly from the late 1630s and the transformation of the forts at Agra and Lahore along similar lines proceeded intermittently throughout the reign.[45]

Aligned strictly with the cardinal points to avoid any discordance with the *qibla* of its mosques, the Red Fort of Shahjahanabad is a regular rectangle – except to the north where the perimeter wall follows the course of the Yamuna opposite the earlier Salimgarh citadel. A low wall, terminating in massive towers, supplemented the natural defence provided by the river in its old course and a water gate gave access to the compound under the command of the southern Asad Burj. On the side of the town – itself protected by brick ramparts – the red sandstone walls from which the fort takes its name rise to over 30 metres over a splayed base of rubble sunk into the moat. Built to be admired as much as to overawe, the stone is finely dressed and relieved by three string-courses with loop-holes below the upper two and in the cusped merlons. There are massive round bastions at regular intervals but the splendid Delhi and Lahore Gates, ultimately both given barbicans to deflect the line of approach through ninety degrees, are flanked by octagonal towers with blind arcades and festive *chattris*. The Lahore Gate, with its octagonal guard chamber, opens the principal axis from the west. The Delhi Gate, west of centre in the South, opens a subsidiary axis through a bazaar. These axes cross in a great square court before the *naubat khana* gatehouse which leads to the court of public audience. Here public progress along the main axis culminates in the *diwan-i-am*.

After isolated precedents set largely in funerary building, Shah Jahan's works were usually executed in marble, with inlaid semi-precious stones, rather than in the familiar coloured sandstone. An increasingly feminine elegance was effected with ribbed bulbous domes and semi-ogee versions of the cusped arch. Bulbous domes and convoluted arches were essential ingredients in the styles of the Muslim Deccani kingdoms, with which the emperor and his forces were increasingly preoccupied. The Mughal ribbed dome is ultimately Timurid, though popular with the Rajputs, and the cusped arch had long been familiar in various permutations in northern India. Columns were given volute-, lotiform- or *muqarna*-capitals, foliate or bell-shaped bases and cannellated, baluster-like shafts. The latter were doubtless



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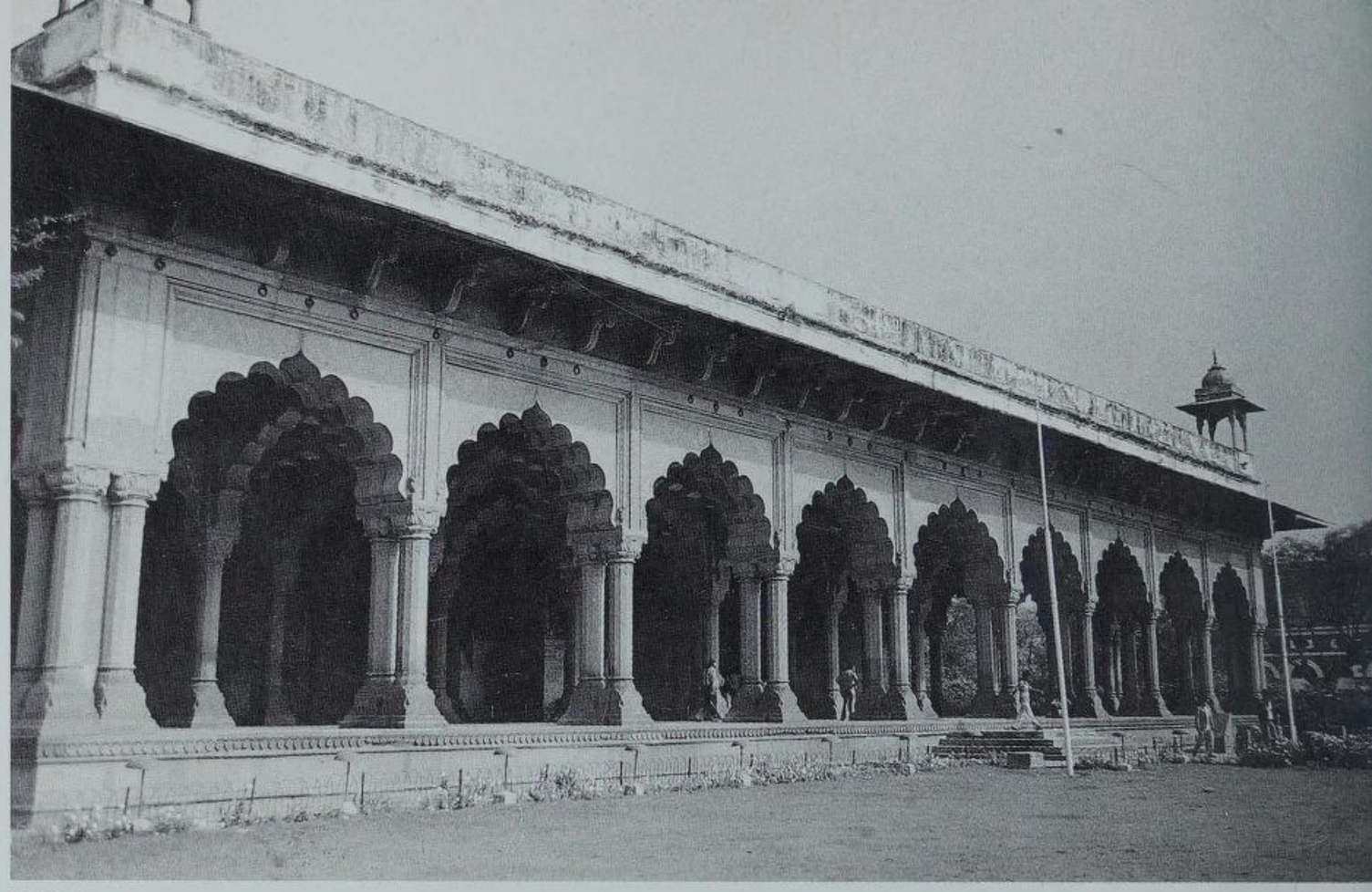

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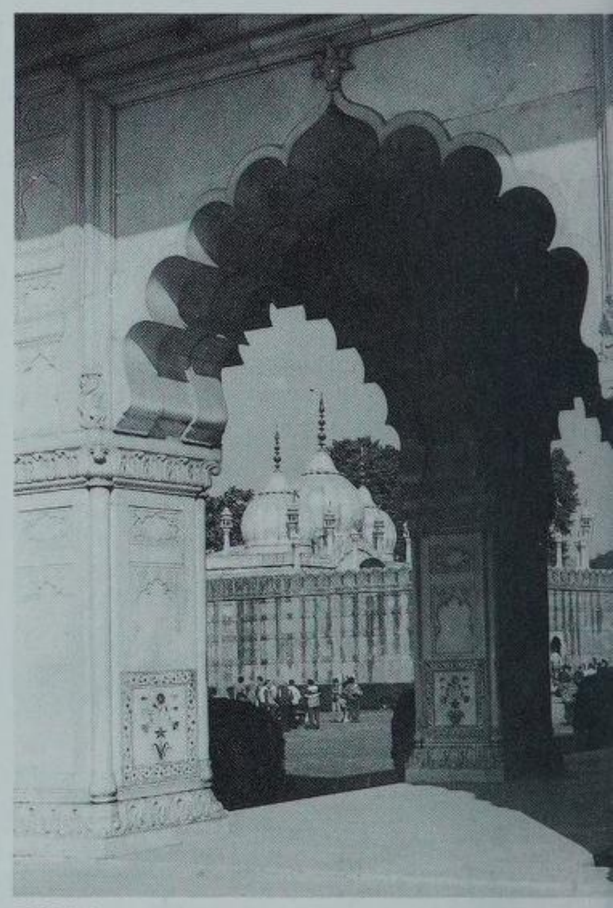


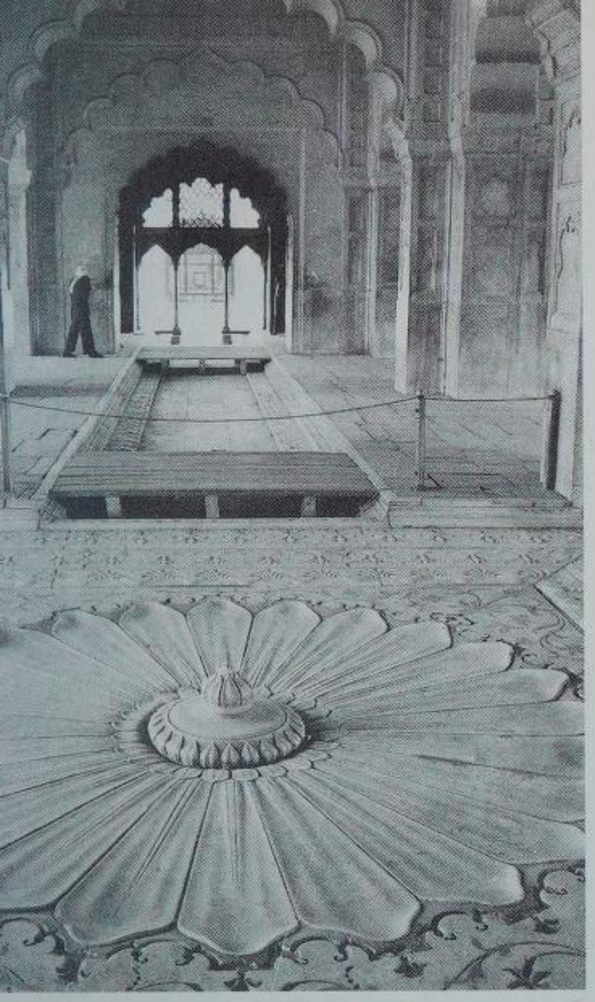
275 (c)

derived from the reed-bundle piers of Bengal whose *bangaldar* roof forms also found increasing favour at court. Akbar's syncretic style was further developed in this way, though the empire was returning from tolerance to Sunni orthodoxy: the last significant efflorescence of the Din-Illahi illuminated Shah Jahan's pavilions with a highly eclectic range of royal symbols reaching back to the ancient *Chakravartin* ideal and the quasi-divine Achaemenid idea of kingship embraced by the Mauryas and familiar to indigenous princes ever since.

The great hypostyle *diwan-i-am*, whose sandstone columns were plastered with powdered marble, was commanded

274. Delhi, Red Fort, plan (1:5000): **(a)** Lahore Gate; **(b)** *naubat khana*; **(c)** *diwan-i-am*; **(d)** *rang-mahal*; **(e)** *khas-mahal*; **(f)** *diwan-i-khas*; **(g)** *hammam*; **(h)** Hayat Bakhsh; **(i)** Shah Burj and kiosk; **(j)** Badoan garden pavilion; **(k)** *haram sara*; **(l)** Delhi Gate.

275. Delhi, Red Fort: **(a–b)** *diwan-i-am* west front and throne platform; **(c)** *diwan-i-khas* south side with Mothi Masjid background; **(d)** *rang-mahal*, lotus fountain; **(e)** *hammam* fountain; **(f–g)** Mothi Masjid; **(h)** Shah Burj and kiosk.



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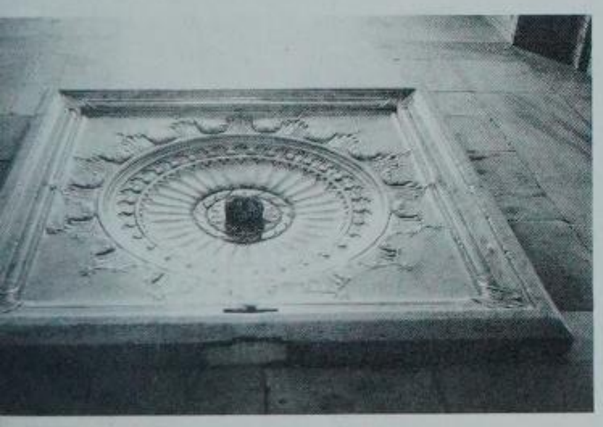

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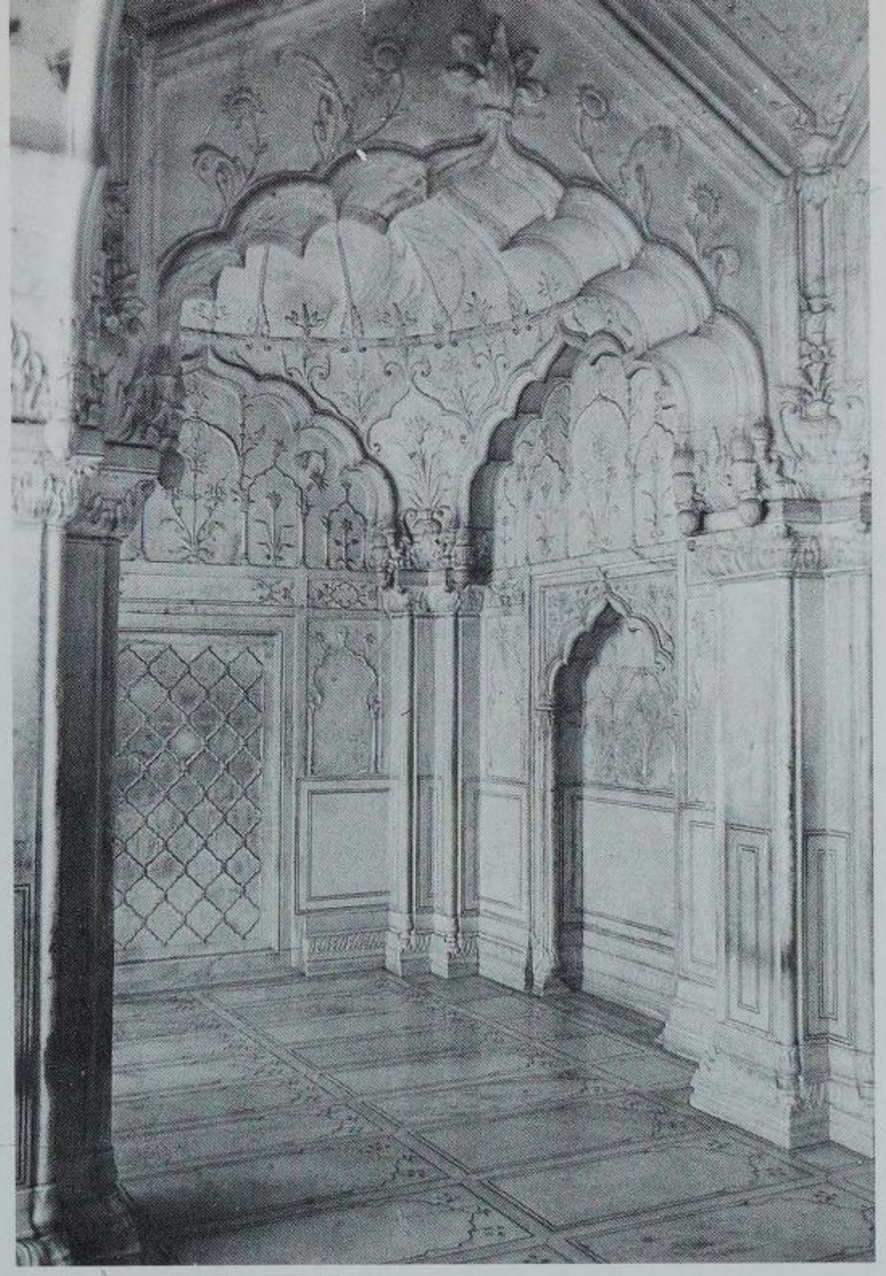

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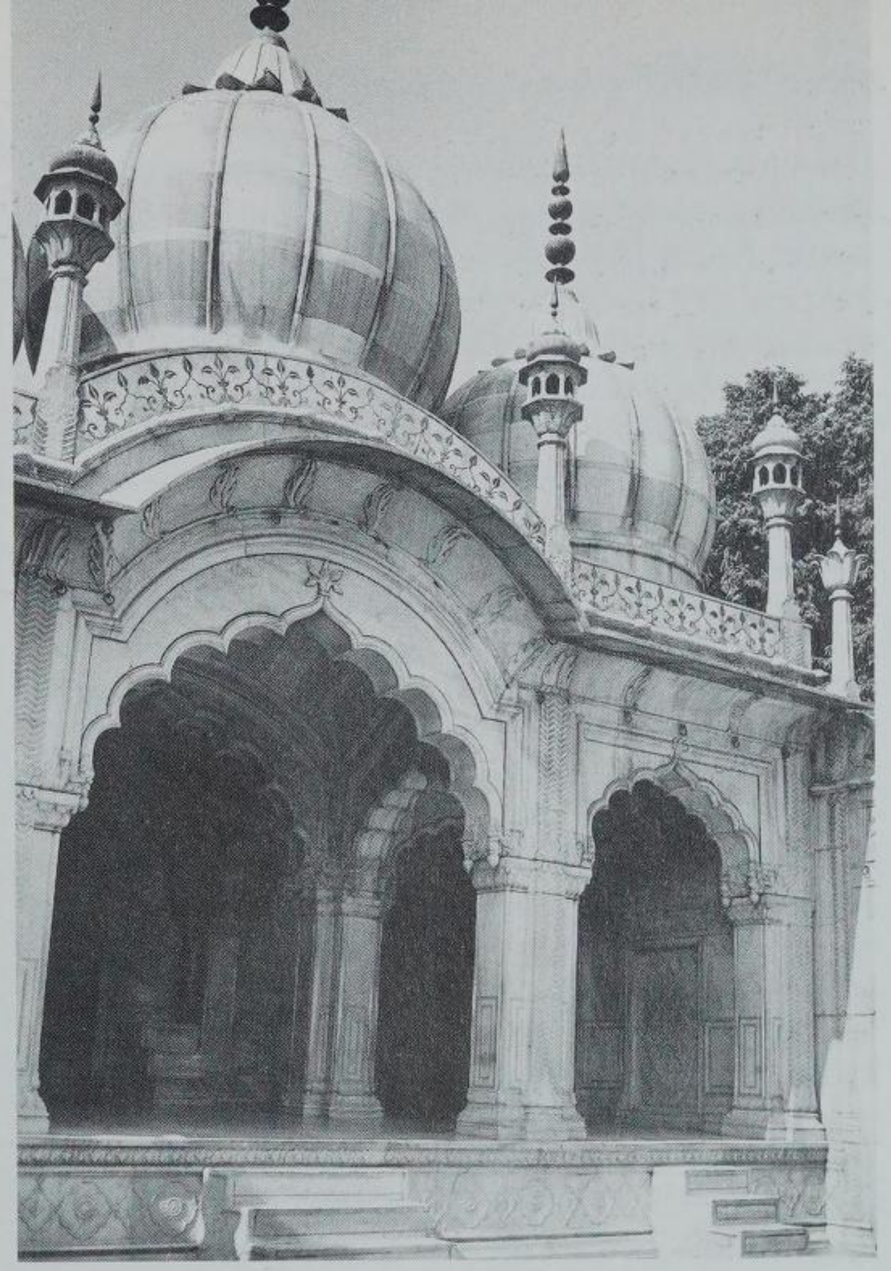

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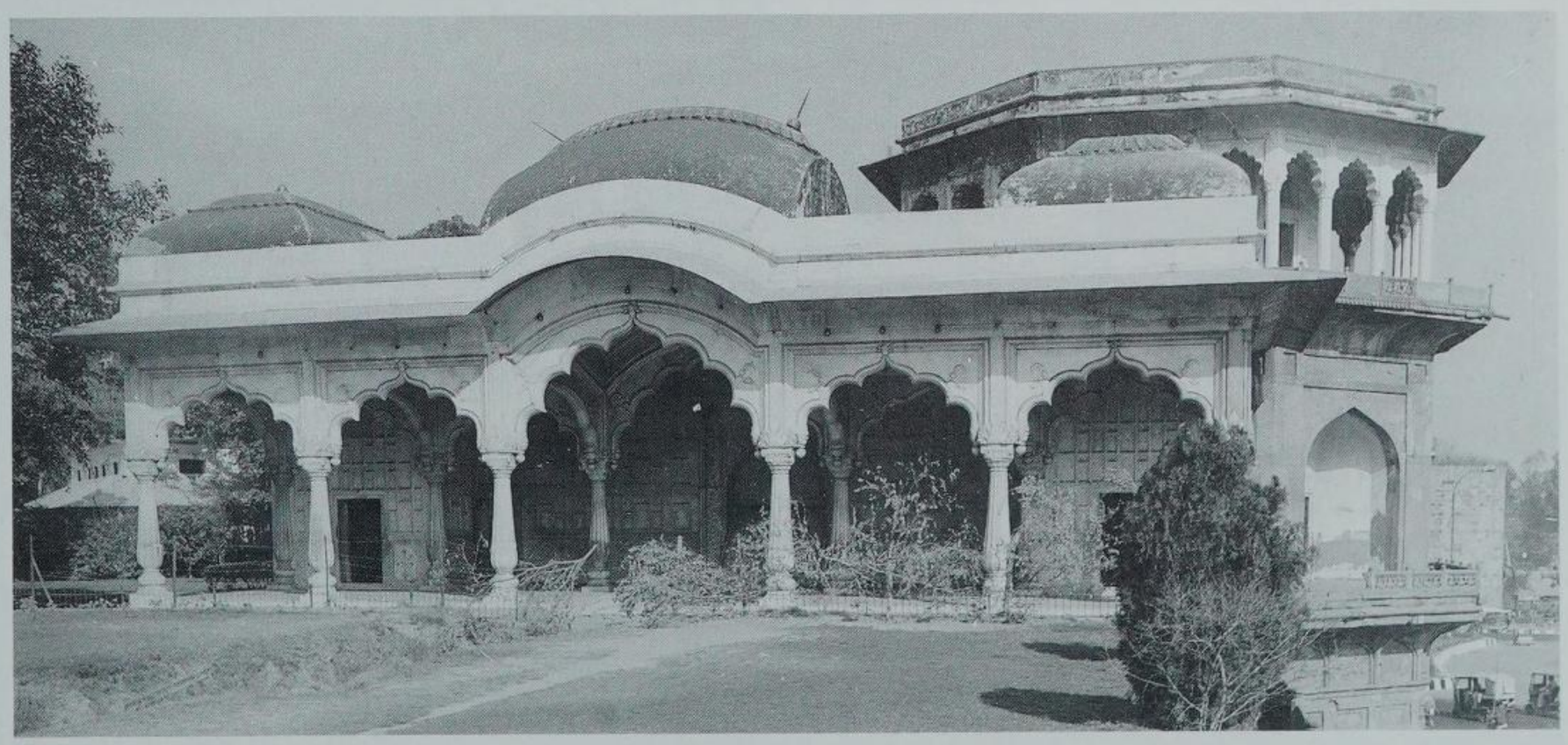


275 (h)

from the central bay of its eastern range by a raised platform covered by a *bangaldar* baldachino of white marble backed by Italian *pietradura*. The emperor entered his throne platform from the garden court of the *daulat khana* immediately to the east. Still on the principal axis the screened *rang-mahal*, at the head of this garden, is first in a sequence of buildings embracing the *diwan-i-khas*, *shish-mahal* and *hammam* (baths) aligned north-south on the river-side terrace. It leads south to the now-destroyed *haram sara*, north to gardens (Hayat Bakhsh) past the Muthamman Burj with its projecting

balcony. Running through these exquisitely chased and inlaid marble pavilions with their intricate screens is the Nahar-i-Behisht ('Canal of Paradise') which supplied water – raised from the river in the north-east bastion – to the gorgeous series of pools and fountains which culminates with the sumptuous *padma* in the *rang-mahal*. The cooling effect of the water as it rippled over the white marble was as crucial to this environment as the irrigation of the gardens but before its display, the canal supplied the baths. The *diwan-i-khas* housed the fabulous Peacock Throne of gem-encrusted gold with a canopy of rubies carried on twelve peacock-topped colonnettes studded with emeralds. Over it the ceiling was inlaid with silver and gold – the celebrated letters of gold proclaiming: 'If there is a heaven on earth it is this, it is this, it is this'.

At Lahore there is a sequence of increasingly intimate enclosures extending along the north front of the fort, but they are not all dependent on an integrated series of pavilions. The court and *khwabgah* (sleeping quarters) of Jahangir terminate the principal axis behind the *diwan-i-am* – which was unfortunately transformed in its 19th-century restoration. To the west is Shah Jahan's *diwan-i-khas*. Beyond the ruined courts of Shah Jahan's private quarters (*khilwat khana*), with no major building on their northern sides, is the *haram sara* court of the Shah Burj with its dazzling mirror- and glass-
42(b) inlaid *shish-mahal* and *bangaldar naulaki* kiosk.

At Agra, where the principal elements of the palace were left unaligned, a black marble throne of Jahangir is on axis with the *diwan-i-am* on the riverside terrace overlooked by the *diwan-i-khas* from the south-east. Off axis, further south, the court of the lavish *khas-mahal* and its twin gilded *bangaldar* kiosks, is aligned with the Jahangiri Mahal to expand the facilities of the *haram sara* around the Anguru Bagh ('Garden of Grapes'). Wedged between the courts of the *khas-mahal* and *diwan-i-khas*, the *shish-mahal* and baths, with their mirror mosaics, communicate with the elegant Muthamman Burj in which Shah Jahan was imprisoned after his deposition by Aurangzeb.

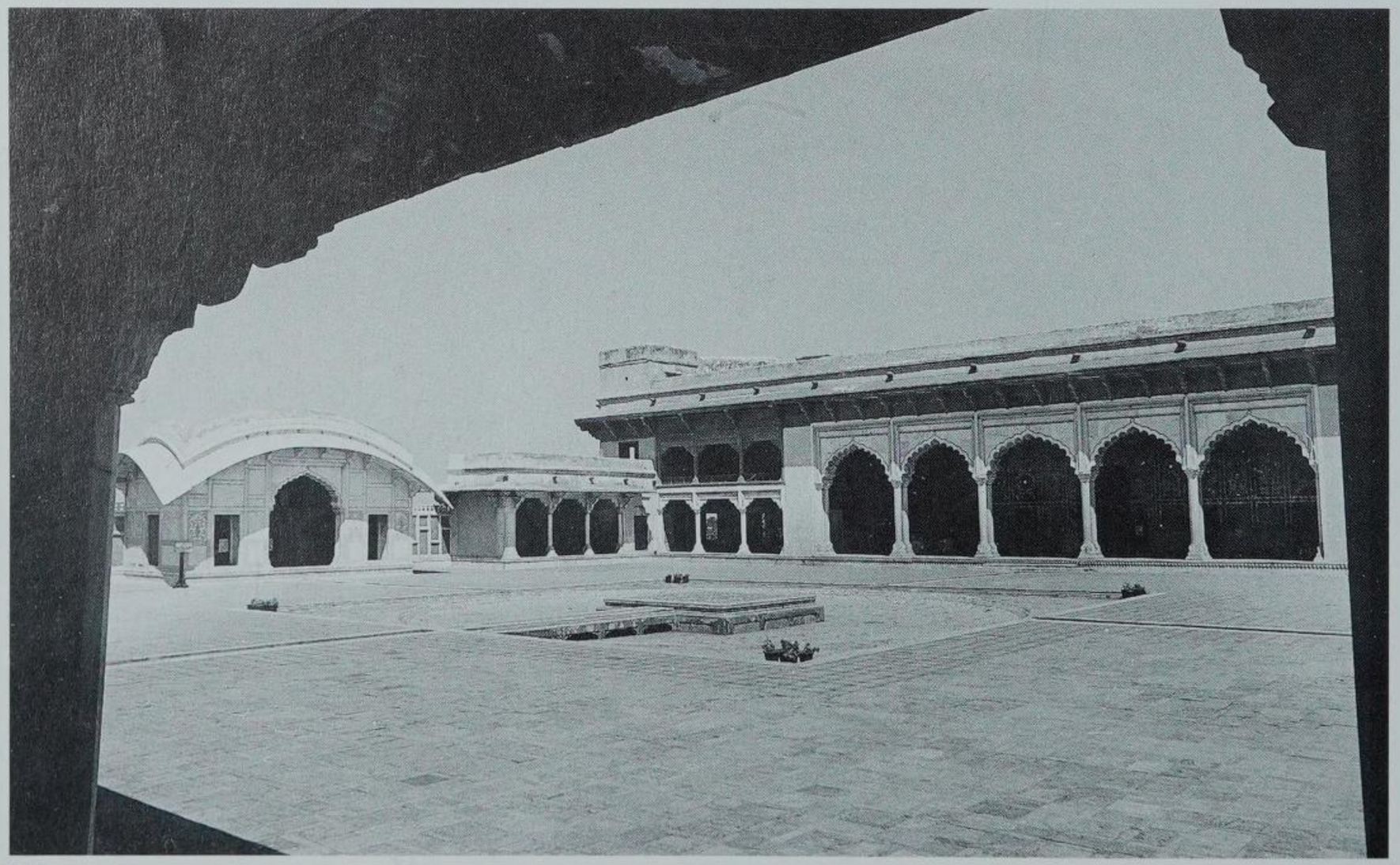
At both Lahore and Agra there are gem-like palatine mosques – the Mothi and Nagina Masjids – built by Shah Jahan in 1645 and 1654 respectively for private prayer. He began another Mothi Masjid in the Delhi fort but it was completed only under Aurangzeb in 1662. Far more opulent than its predecessors, it is essentially non-architectonic in its approach to decoration with flamboyant low relief carving, ephemeral pilasters, Bengali bowed cornice and *chadya*, implausible miniature minarets and turban-like domes. Over-refinement is first apparent in the late pavilions of the Hayat Bakhsh, but the Mothi Masjid marks the turning towards the effete, anticipating decadence.

The cross-fertilization of indigenous and imported traditions, as important in developments under Shah Jahan as it had

276. Lahore fort, *haram sara*: court with *naulakhi* kiosk, and Shish-Mahal right.

277. Agra, Red Fort: (a) Nagina Masjid with Mothi Masjid background; (b) *diwan-i-am*.

278. Amber, palace of Jai Singh I, plan (1:1000): **(a)** Singh Pol; **(b)** *diwan-i-am*; **(c)** Ganesha Pol; **(d)** Sukh Niwas and *chahar bagh*; **(e)** Jai Mandir; **(f)** *shish-mahal* with Jass Mandir above.



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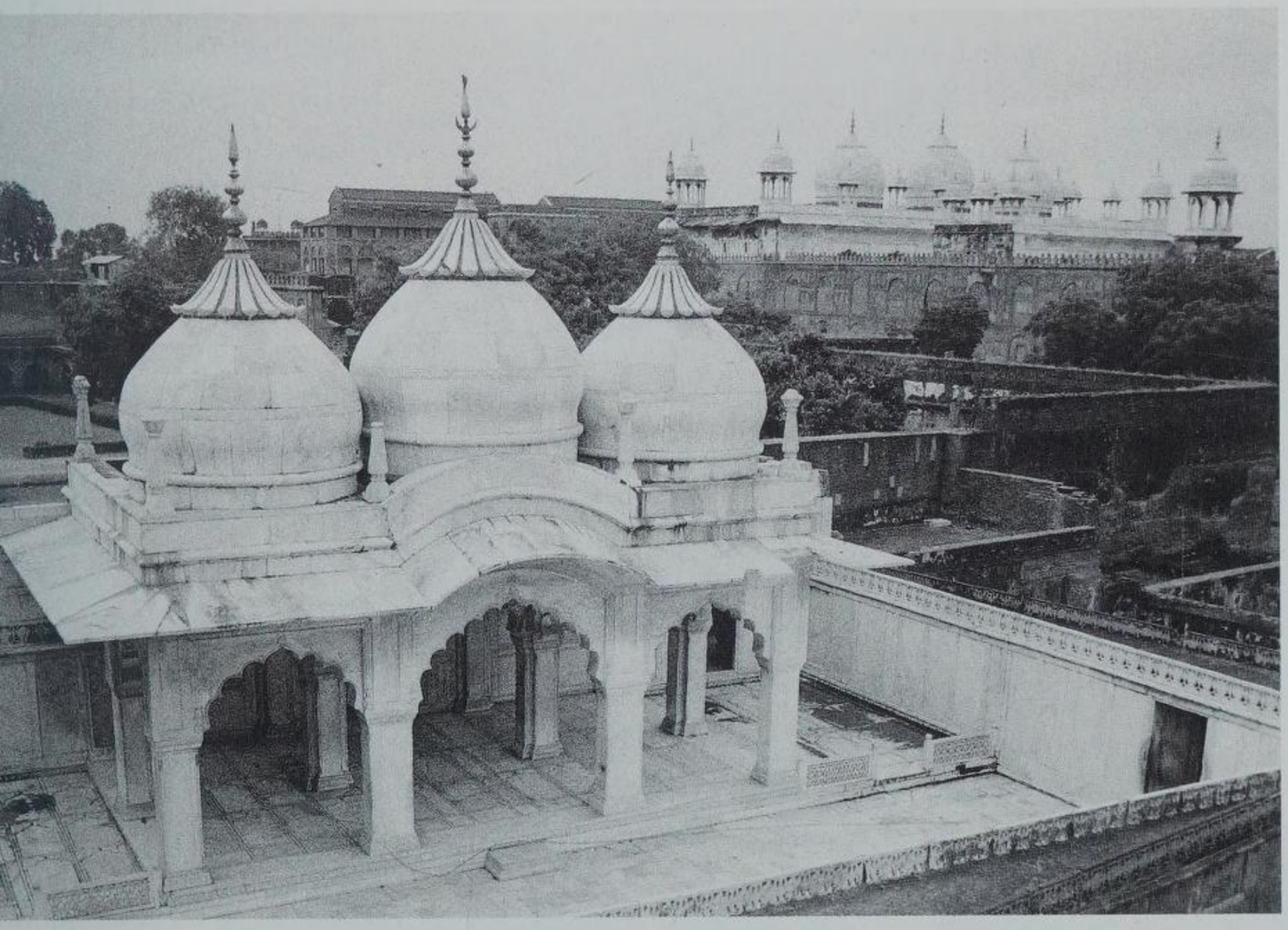

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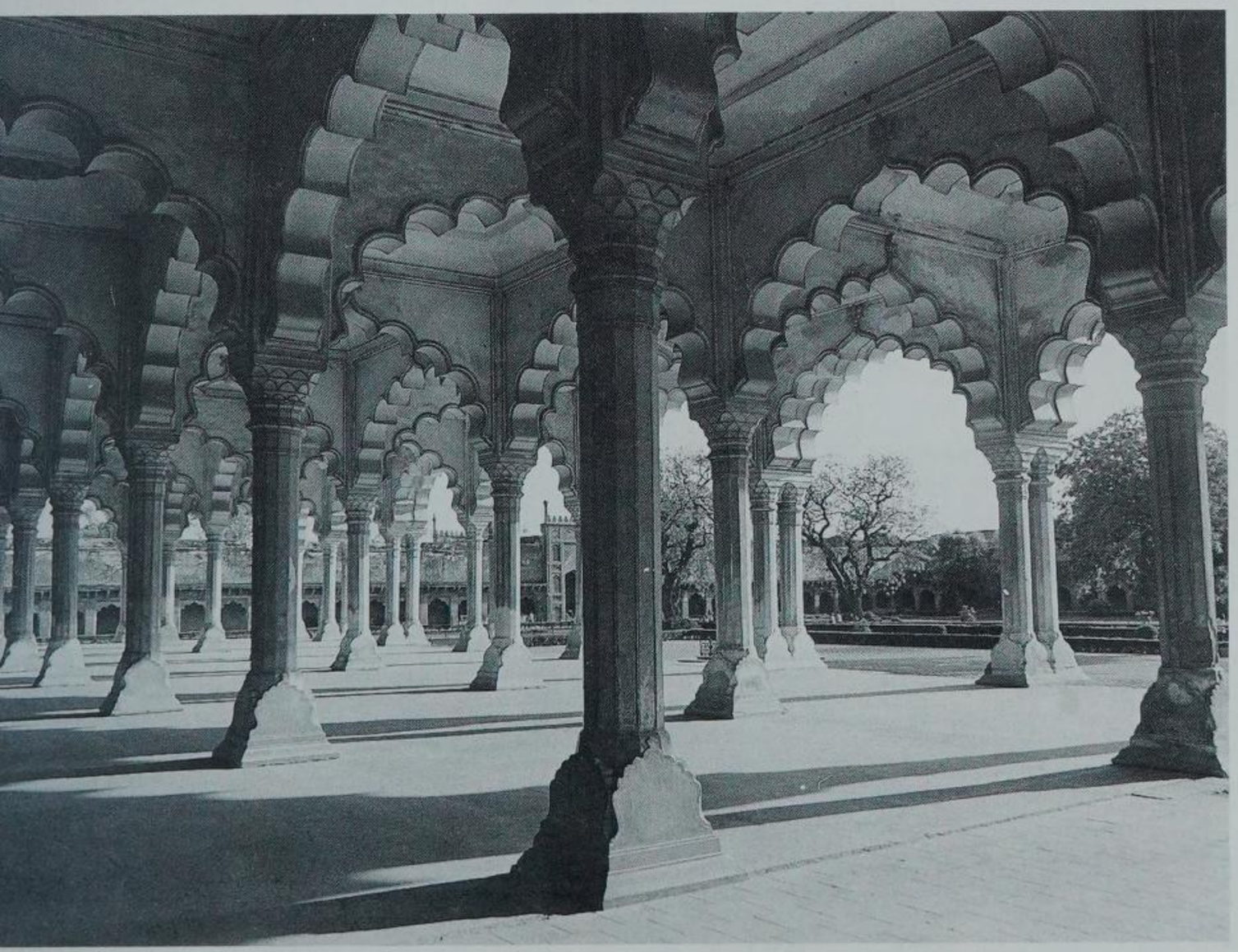
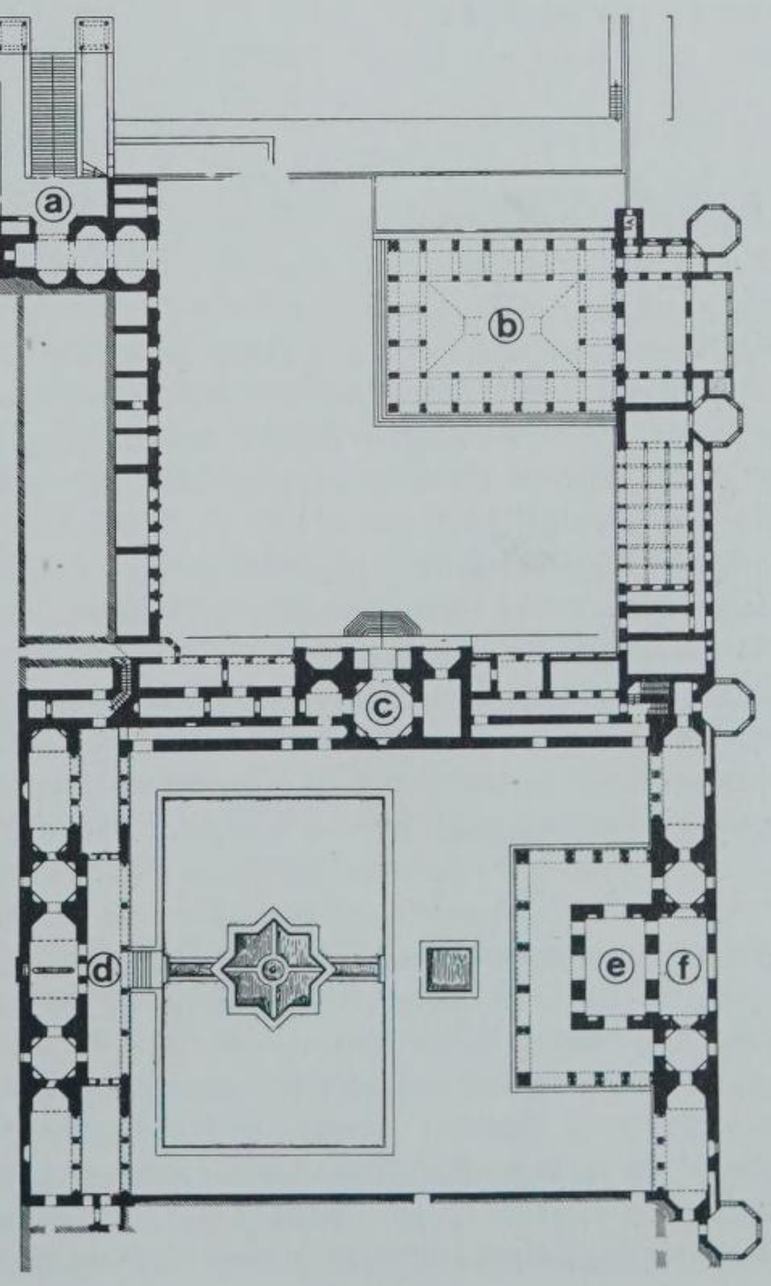


277 (b)

been under Akbar, was of reciprocal benefit to the native prince. Rajput rulers, long familiar with the imperial court, vied with one another in the embellishment of their own courts. None surpassed Jai Singh I of Amber (1623-68) who lived long enough to emulate both Akbar and Shah Jahan. In augmenting the canonical range of Hindu palace facilities, he went further than most of his compeers in actually taking works of both emperors as precise models for the major elements he inserted into the courts inherited from his predecessors.

The original court, Mansinghgarh of Raja Man Singh (1592-1615), like the contemporary Lakshmi Chowk at Udaipur, recalls something of earliest Orchha. The last, Jaleb Chowk, was added by Jai Singh II (1699-1744). This is the entrance court, gained by the last of the gates guarding the serpentine approach, the Suraj Pol. The Chandra Pol opposite leads to the Narasinghji-ka-Mandir of Man Singh's successor and the Jagat Shiromani – a hall-temple catering for the *bhakti* needs of the Hindu revivalists after the pattern of the Orchha Chaturbhuja. The principal palatine temple of Kali is to the left by the Singh Pol which forces a 90-degree turn on access to the courts of Jai Singh's palace.



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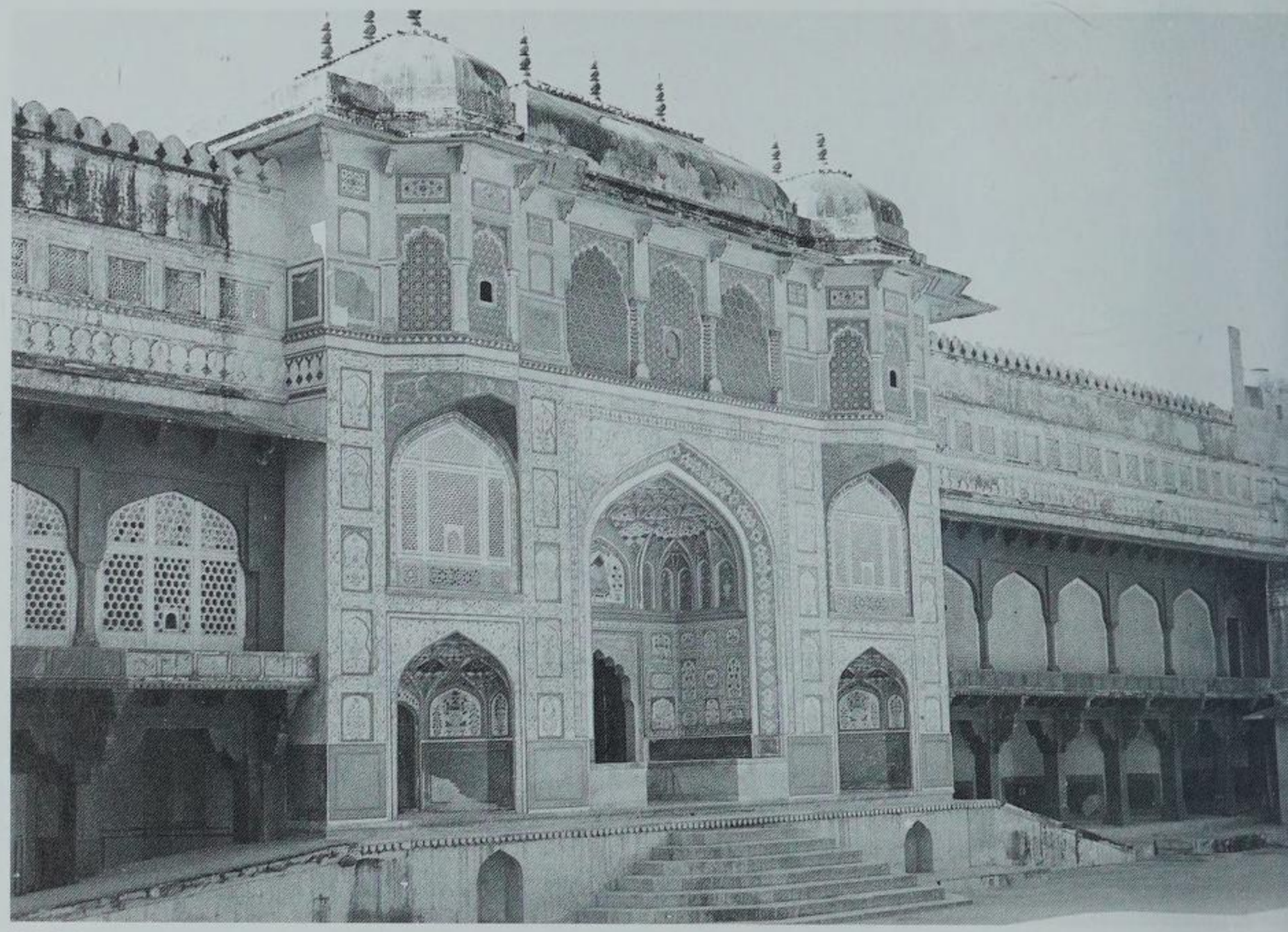
The first is the court of the *diwan-i-am*, a majestic *apadana* comparable to the grandest built for Akbar by his indigenous craftsmen, with its vaulted canopy carried on doubled rows of vigorously carved columns and elephant capitals, sandstone without and marble within. From the southern side of the court the Ganesha Pol – a festive interpretation of the military twin-towered gate – leads to the garden court of private audience. The elegant Sukh Nivas to the right, with watercourse to the *chahar bagh*, contained Jai Singh's personal suite. To the left is the Jai Mandir with the *diwan-i-khas* and *shish-mahal* modelled on the more intimate works of Shah Jahan, the Anguri Bagh at Agra in particular. As there, the *bangaldar* plays an important role in the Jass Mandir. Rather than to the side of the main *baradari*, however, it is superimposed over the Jai Mandir on a roof terrace – as in the *daulat khana* of Fatehpur Sikri and in the ancient *prasada* tradition. At the same level, over the Ganesha Pol, is the Sohag Mandir. This is a gorgeous confection of floral ornament and the Jai and Jass Mandirs are covered with
45(c) canopies of the most dazzling mirror mosaic left to us from that resplendent era. Mirror mosaic, floral ornament, garden murals and the *chahar bagh* itself were surely the richest of the Mughal contributions to the court style which owed so much else to native India.



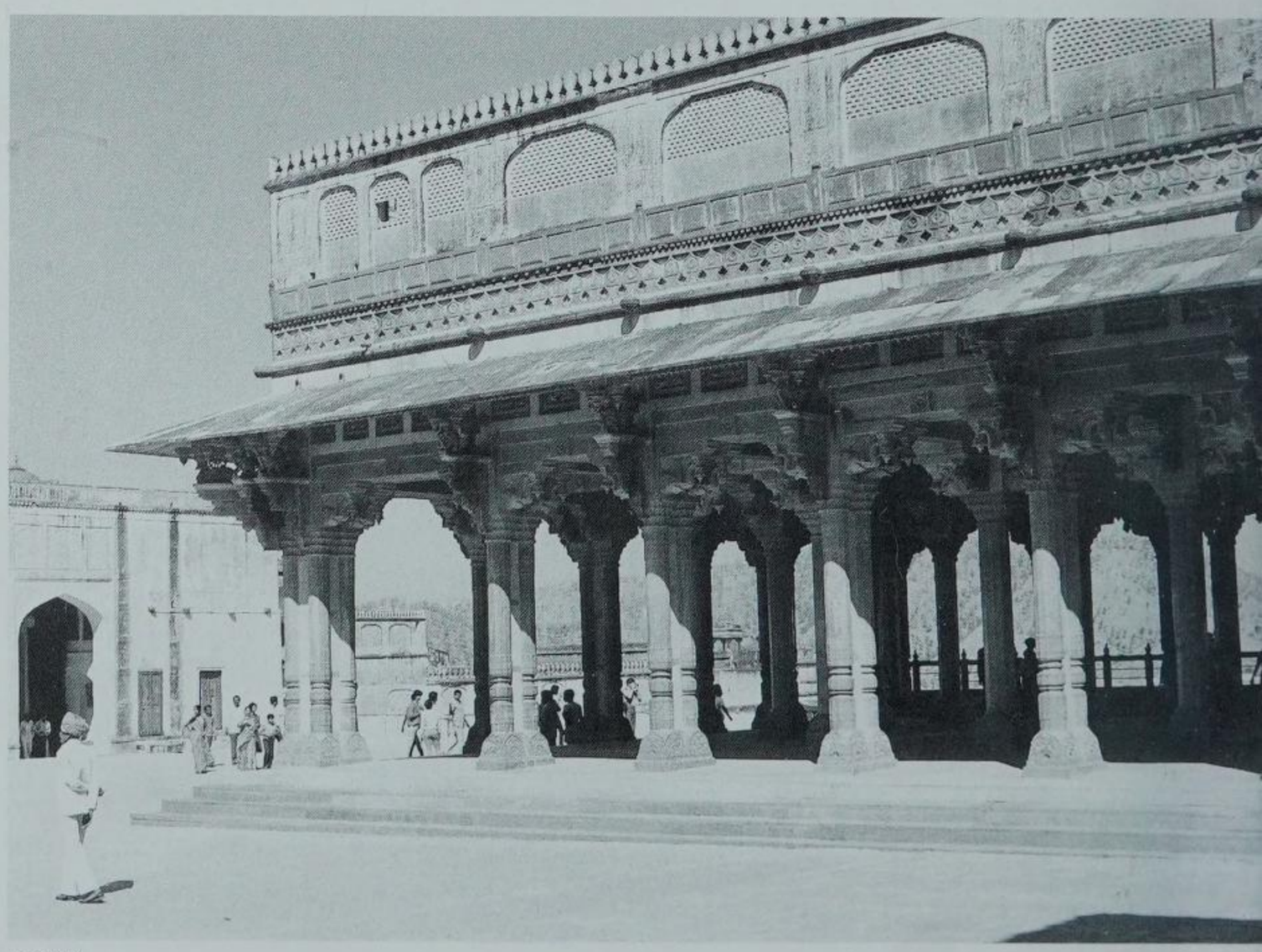
279 (a)

The Garden

The Mughals were clearly obsessed with flowers – above all carnations, roses, violets, jasmine, narcissus, iris, tulips. Inlaid in semi-precious stones or painted in the borders of miniatures, they infiltrate palace and tomb in a delightfully informal way – if with increasing botanical accuracy. Yet, ironically, they are pressed into the service of a rigorous formality in the *chahar bagh* as inseparable from the garden image of Paradise. As Shah Jahan himself put it in an inscription on the Taj Mahal:

> Like the Garden of Heaven, a brilliant spot,
> Full of fragrance like Paradise fraught with ambergris...

The Mughals were equally obsessed with water – as were all the rulers of Islamic lands where paradise is an oasis. As we have seen, in the Koran Paradise is the Eden of Genesis, whose definition is related to the ancient Persian ideal order of an enclosed square divided by four rivers flowing in the cardinal directions from the source of the Waters of Life in the centre. As a cosmological concept – the context of blessedness emitting *baraka* – the four-square garden is the setting for the tomb and might be enjoyed by the patron before and after he came finally to rest there. As we shall see, the greatest of India's tombs were modelled on palaces and, of course, palaces – whether or not destined to be tombs – are set in gardens. The Mughals were certainly not the first Indian rulers to plant gardens but after Babur the *chahar bagh* is pervasive. The greatest of the many gardens



279 (b)

279. Amber, palace of Jai Singh I: **(a)** Ganesha Pol; **(b)** *diwan-i-am.*

280. Sasaram, tomb of Sher Shah.

280

of the Great Mughals were probably Shah Jahan's Lahore
39 Shalimar and its model on the banks of Lake Dal in Kashmir to which Jahangir's court retired in summer from 1619.[46]

There, ascending *chahar bagh* terraces, now mostly devoid of their original pavilions, provided three zones for public audience, private audience and the *zenana.* The lowest terrace, immediately within the entrance, was dominated by the *diwan-i-am* through which the water flowed along the central canal but from which access to the *diwan-i-khas* was open only to the emperor and his entourage. On the upper terrace the inviolable *zenana* commanded a view of the whole – and, from towers in the enclosure wall, of its unrivalled setting between lake and mountain.

Imperial Mosque and Tomb

As we have seen, Babur, who complained of the heat, wind and dust of Agra and noted the lack of running water, laid out the first of the great Mughal gardens in which water plays a crucial part. He himself decreed that he should be buried in one at Kabul, in a grave covered only by the earth and the sky. Thus the first great funerary work of the Mughal era, the apotheosis of the octagonal form of mausoleum inherited from the last Afghan sultans, is that of the Afghan usurper of Humayun's throne, Sher Shah, at Sasaram in Bihar.

The finest of the tombs at Sasaram were commissioned in the third and fourth decades of the 16th century by Sher Shah for his father Hasan Khan Sur and himself. A third was begun for his son Islam but remained unfinished at the dynasty's fall. In a turreted compound, the former has massive piers instead of battered buttresses at each corner and an imposing octagonal drum carries hexagonal *chattris* and broad dome crowned with double *padma-kosha*, *amalaka* and triple *kalasha.* The portals are trabeated and corbel blocks effect the transition from the basic octagon of the chamber to 16- and 32-sided zones in the drum. The painted stucco decoration of the dome and the stone *mihrab* in the western wall follow the Delhi tradition. Sher Shah's own 183(f)
tomb is set in a lake on a high walled platform with corner *chattris* and stepped terrace connected to the entrance pavilion by a broad causeway to the north – the terrace and *jagati* slightly out of alignment with each other. Now the verandah too is surmounted by *chattris* and a low drum disassociates the base of the dome from the high walls of the

clerestory-lit tomb chamber while providing more effective seating for the eight hexagonal *chattris* which surround it. The superimposed *chattris* in stepped tiers leading up to the great dome counter the horizontals far more effectively than formerly, producing an aspiring pyramidal composition to which the finite mass of the platform provides an admirable foil.[47]

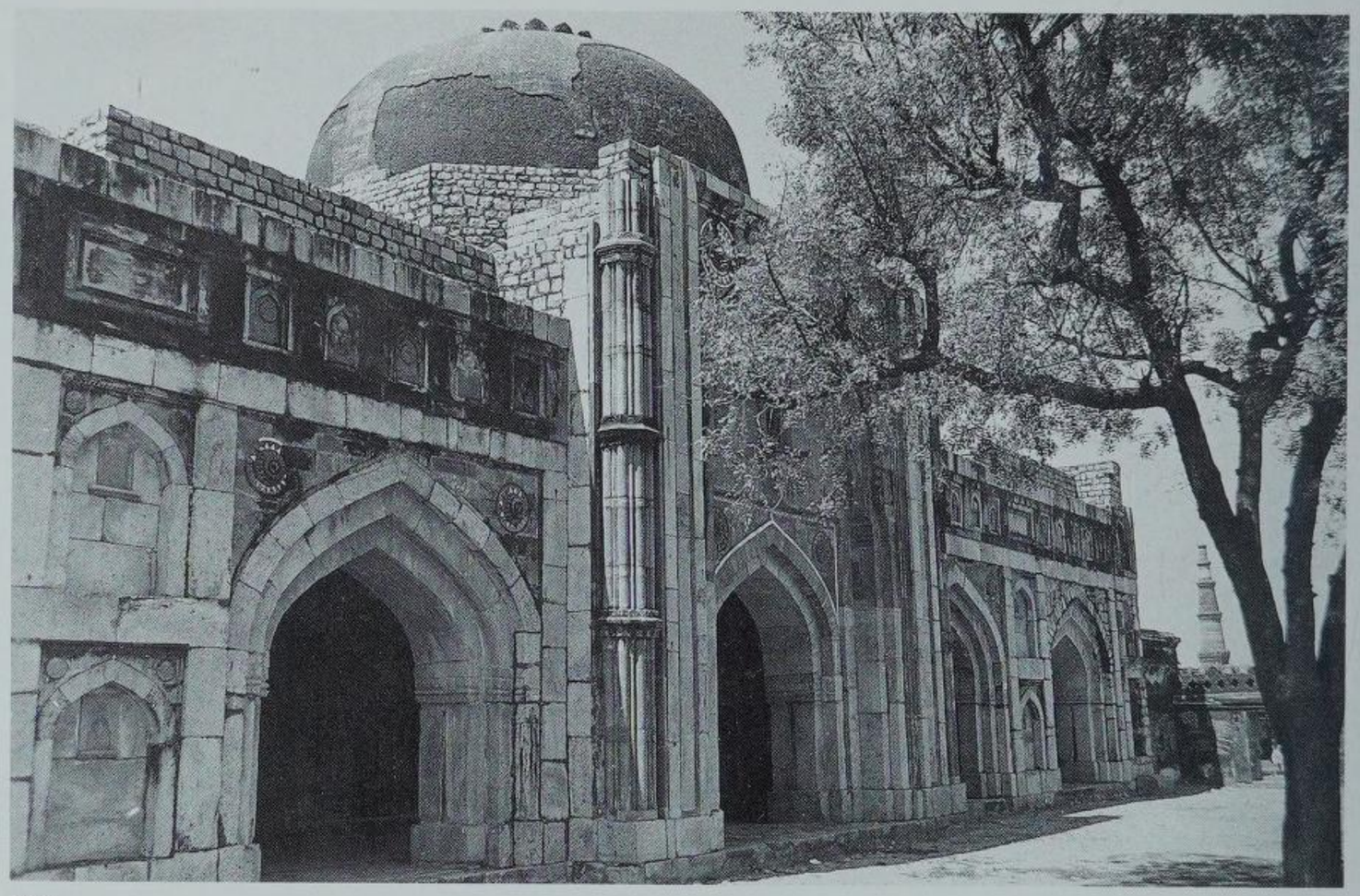
Of several mosques built while the Mughals were establishing themselves, the Jamali Masjid at Mehrauli, from the end of Babur's reign, and the Qila-i-Kuhna in the Purana Qila – perhaps wrongly attributed solely to Sher Shah's brief reign – are the most important followers of the Lodi Moth-ki-Masjid in departing from the traditional court plan.

In the distinguished Jamali Masjid the five arches of the prayer-hall are still consistent in size, but the central one is raised in much more prominent relief with a frontispiece flanked by fluted *minars* and crowned by the single dome. The predominant material is grey sandstone but white marble is used for the delicate rosettes which relieve the spandrels of all the arches and the panels set into the frieze. Beyond
36(b) the court to the north is the exquisite octagonal tomb chamber of the poet Jamal Khan with sumptuous painted stucco and tile-work unsurpassed in the early-16th century.

36(a) In the Qila mosque the manipulation of facade planes is at its most subtle. The five arches progress in height from the sides to the centre but the elevated blind arcades are applied before each in counterpoint, the outer ones being taller but shallower than the intermediate ones and the central one taller still but deeper. The foremost plane of the frontispiece has a spearhead valance and this is echoed on the inner arches of the intermediate bays while the plain white marble surround of the innermost central arch echoes the blind outer arches of the side bays, both in the context of coloured inlay. Dispensing with colouristic effects and rich materials, except for the lavish *mihrab*, the interior relies wholly on cool lucidity in the delineation of multiple arches.[48]

The first great architectural enterprise of the Mughals in which a *chahar bagh* played a crucial role was the Dinpanah
34 tomb of Humayun, built by his wife the Hamida Banu Begam well into the reign of their son Akbar. Here the mausoleum itself matches Babur's own description of the *hasht behisht* pavilion of the Herat Tareb Khana Palace which the Mughals in exile would have seen. It stands on a great platform like
217 the tomb of Mahmud Khalji on the transformed Ashrafi Mahal of Mandu – a work which Akbar admired and attempted to save from instability. Of red sandstone with coloured stone and white marble inlay and incorporating *chattris* and *chadyas* on brackets, these forms are expressed in terms of the Indian Muslim tradition brought to its apogee under Sher Shah at Sasaram and in Dinpanah's own Purana Qila.

The great square compound of the *chahar bagh* is entered from the west but there is a monumental south gate as well. The four quarters of the square are defined by causeways



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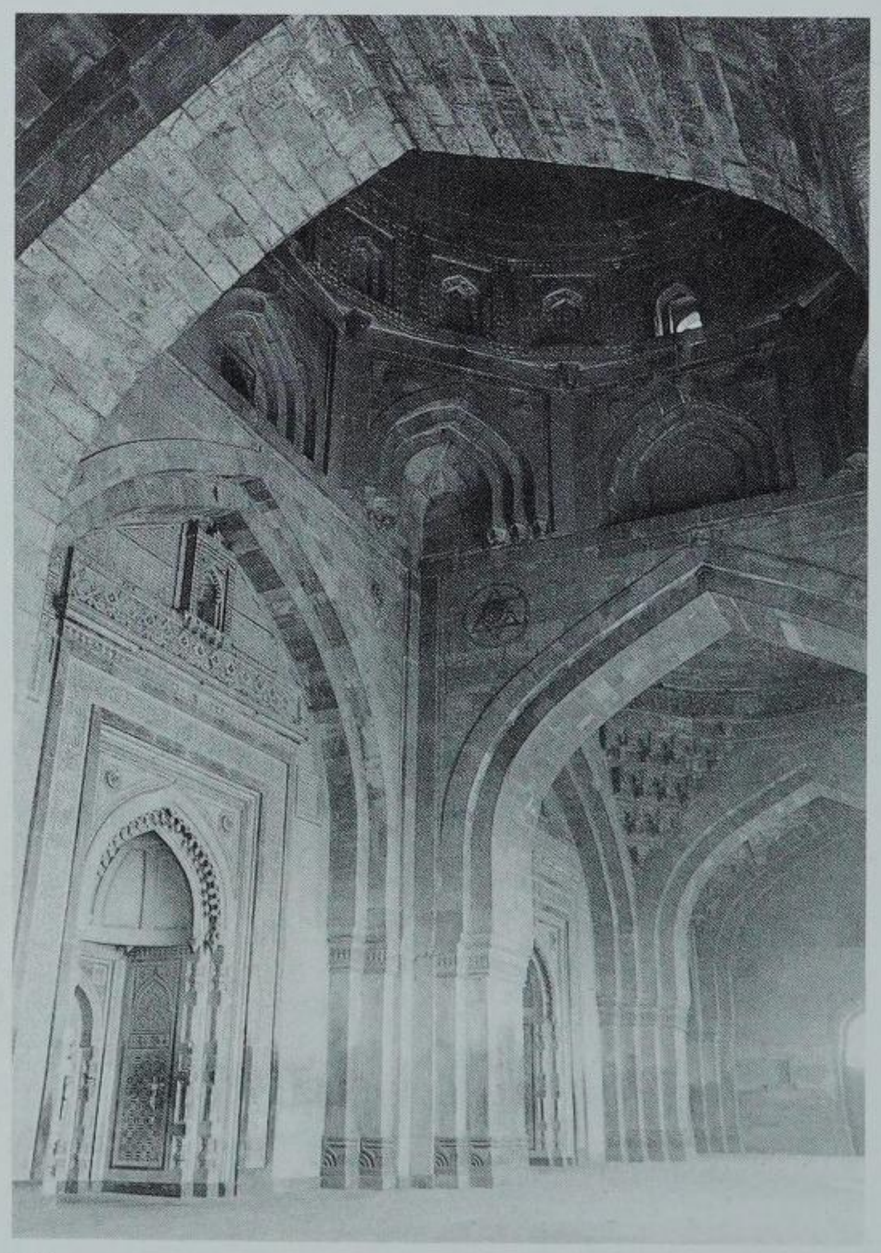

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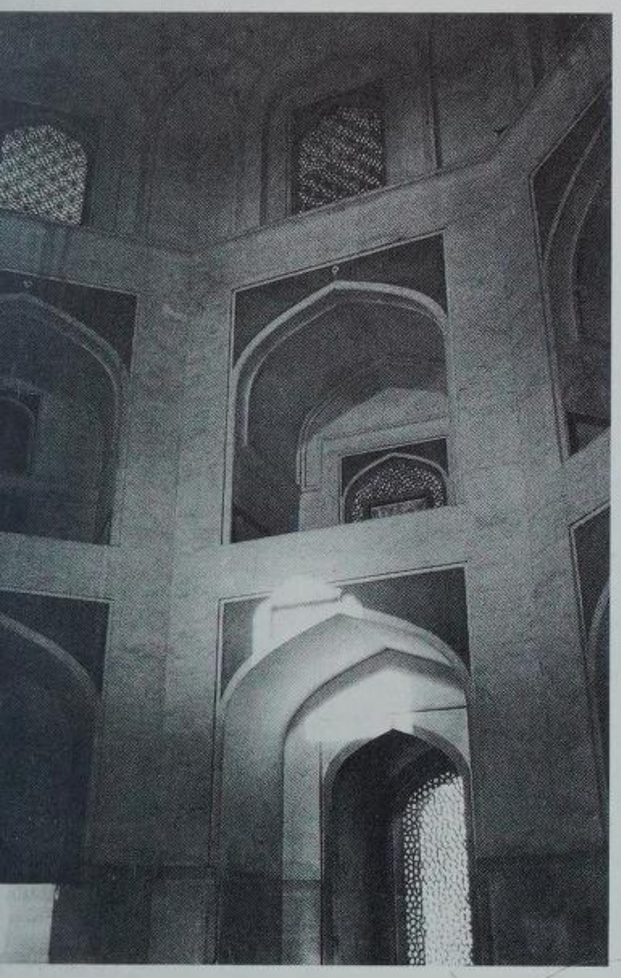
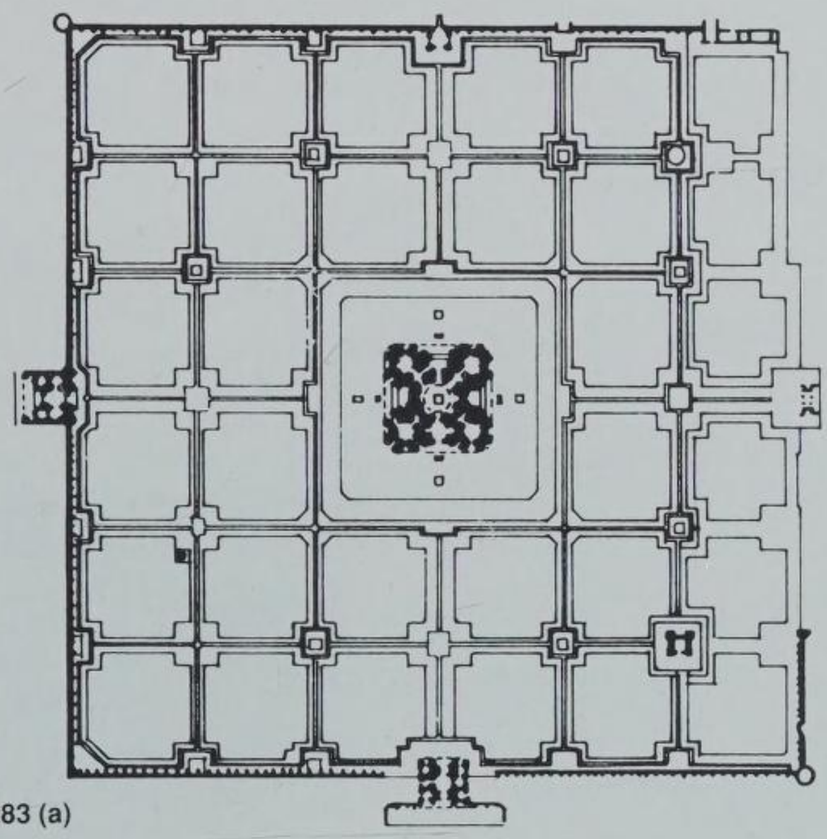
281. Delhi, Jamali Masjid: prayer hall from south-east.

282. Delhi, Purana Qila, Qila-i-Kuhna Masjid: central *mihrab* bay.

283. Delhi, Humayun's tomb: **(a)** plan (1:1500); **(b)** from north-west; **(c)** main tomb chamber.



283 (b)



283 (a)

leading from these entrances, and the pavilions which balance them at the cardinal points in the centre of the other sides to the central square occupied by the base of the mausoleum itself. The unpretentious funerary mosque, incidentally, is outside the compound beyond the main western entrance. Set into each causeway is a water channel, continuous flow being assisted by small chutes (*chadars*), interrupted at the junction of subsidiary axes subdividing the main square, by lily ponds except in the south-east corner where a secondary mausoleum was constructed. The great platform in the centre contains arcaded and vaulted chambers around the burial chamber which is entered directly along the southern axis.

The superstructure is a rationalist exercise, square in plan 34
but subdivided by vestibules beyond the great *iwans* on the main axes into five zones, all with their corners cut to effect contiguity – the southern *iwan* is blind to provide a two-storey entrance hall. The four *chattri*-crowned corner zones, with two storeys and superimposed arcades in the canted corners on either side of subsidiary *iwans* – as in works like the mausoleum of Mulla Hassan at Sultaniya – contain the tombs of members of the imperial family. The emperor's

283 (c)

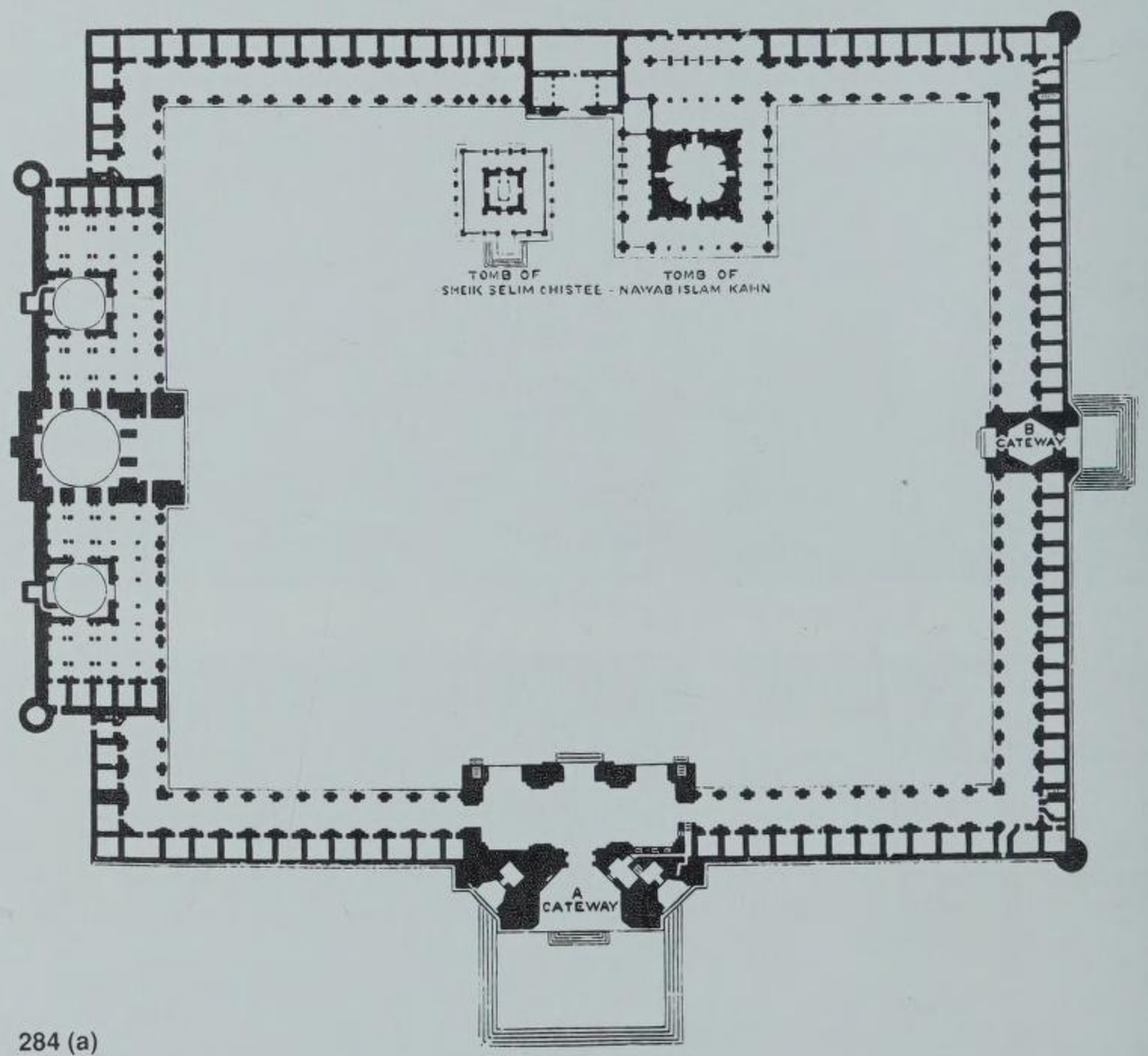
great arched central cenotaph chamber, recalling that of
173(d) Oljeitu, rises through the full height of the building. The marble sheathed, slightly bulbous outer profile of the splendid double dome is perhaps more Safavid than Timurid. The beautifully dressed red sandstone with its coloured inlay, lends festivity to this masterly work but never at the expense of a *gravitas* worthy of its distinguished lineage.[49]

The greatest mosque of Akbar's reign, Fatehpur Sikri's Badshahi Masjid (Imperial Mosque) dominated by the
35(a) triumphal Buland Darwaza 'Lofty Gate', reverts to the traditional court plan. Of red sandstone with coloured stone and white marble inlay, its incorporation of indigenous decorative details is characteristic of Akbar's works. The cloisters return along the western side in the Persian manner, though their arcades mask a trabeated structure below deep *chadyas* and *chattris*. Heightened and deepened and interrupted by a typical early Mughal frontispiece but not breaking forward, they form a prayer hall which contrasts markedly with the free-standing block of the Afghan period. The *qibla qubba*, whose dome is hidden by the frontispiece, is richly decorated within with carved, painted and inlaid ornament and transition is effected by arched squinches in contrast to corbelling in the two subsidiary *qubbas*. As in the *qibla* frontispiece, in the eastern Badshahi Darwaza ('Imperial Gate' – the only one to survive in its original form) the red sandstone used throughout the complex is eclipsed by coloured stone inlay.

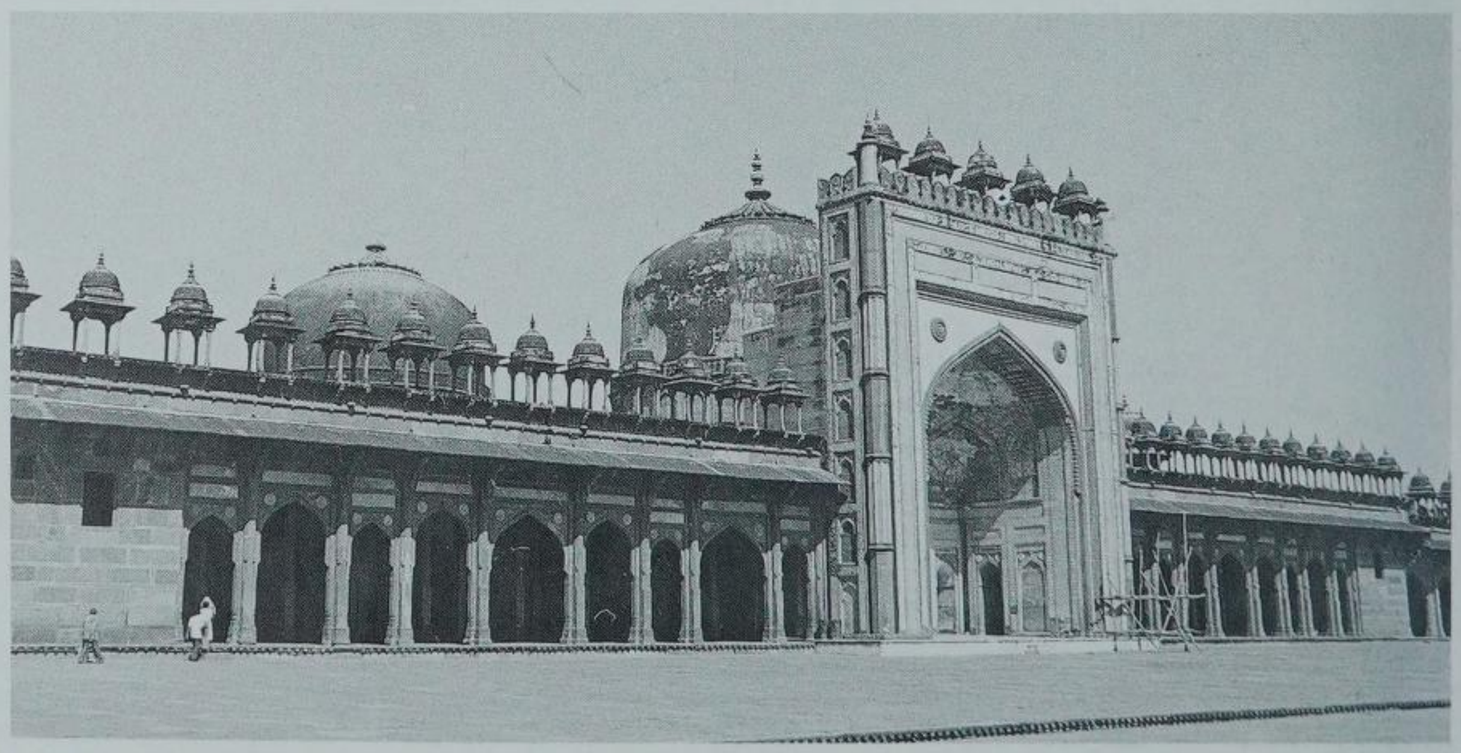
The triumphal Buland Darwaza replaced the south portal above the service quarters of the town. Bearing celebrated pantheistic inscriptions, it was built primarily as a monument to commemorate Akbar's subjection of Gujarat. It was to be seen rather than used. The composition seems somewhat incongruous from the court, incorporating stepped tiers bearing *chattris* to mask the back of the frontispiece. From outside its great multi-coloured stone and marble *iwan* thrusts forward resplendently over the most precipitous face of the plateau.

A considerable number of tombs built in the later-16th and early-17th centuries show some degree of Persian influence. This is predictably pronounced in the west, for example around Tatta and Makli in such works as the Diwan Shurfa Khan complex, or Uchch where the Multani tradition of Sheikh
25 Rukn is elaborated in the tomb of Bibi Jivinda. It is also reflected in the heart of the empire, for ministers of the
36(c) Persianized court. Atgah Khan's tomb in Delhi's Nizam-ud-din complex is a particularly fine miniature with delicately carved sandstone and sumptuous marble inlay. On the other hand, in the red sandstone mausoleum of Sheikh Muhammad Ghaus at Gwalior, richly screened and trabeated even to the corbelling of the vault below the dome, the influence of the indigenous tradition – especially that developed under the
200–201 Ahmad Shahis of Gujarat – is much more pervasive. Similarly, the exquisitely refined tomb of Sheikh Selim Christi in the Badshahi Masjid at Fatehpur Sikri – with its filigree screens and extravagant serpentine brackets springing from chevron-patterned columns below deep *chadyas* – marks the triumph of the style of Ahmadabad and Sarkhej at Akbar's court. Originally of red sandstone with white marble detail, the whole scheme was translated into marble at the beginning of the reign of Jahangir.[50]

284. Fatehpur Sikri, Badshahi Masjid: **(a)** plan (1:1500); **(b)** prayer hall from south-east; **(c)** central *mihrab* bay; **(d)** tomb of Selim Chisti.



284 (a)



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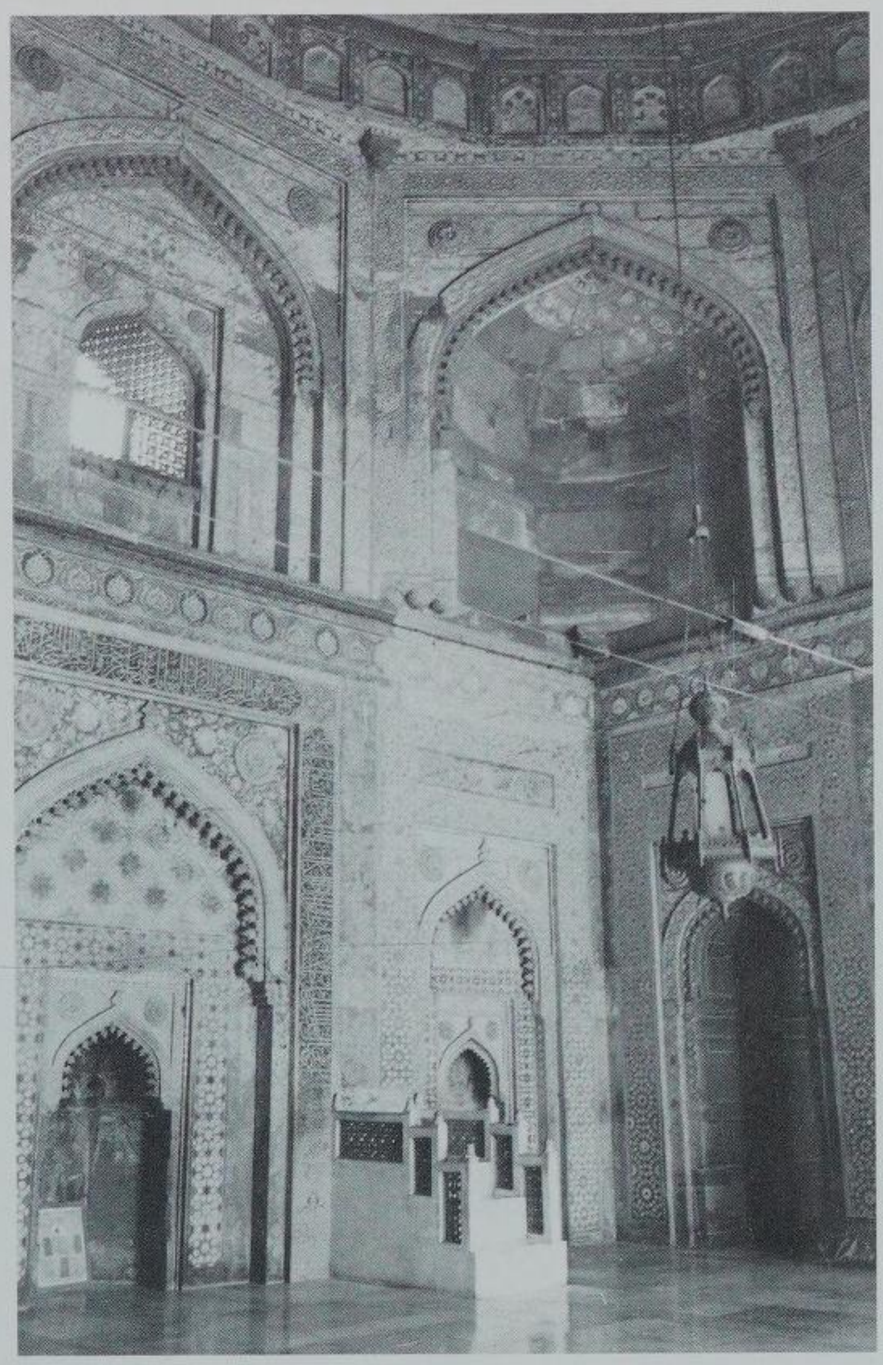
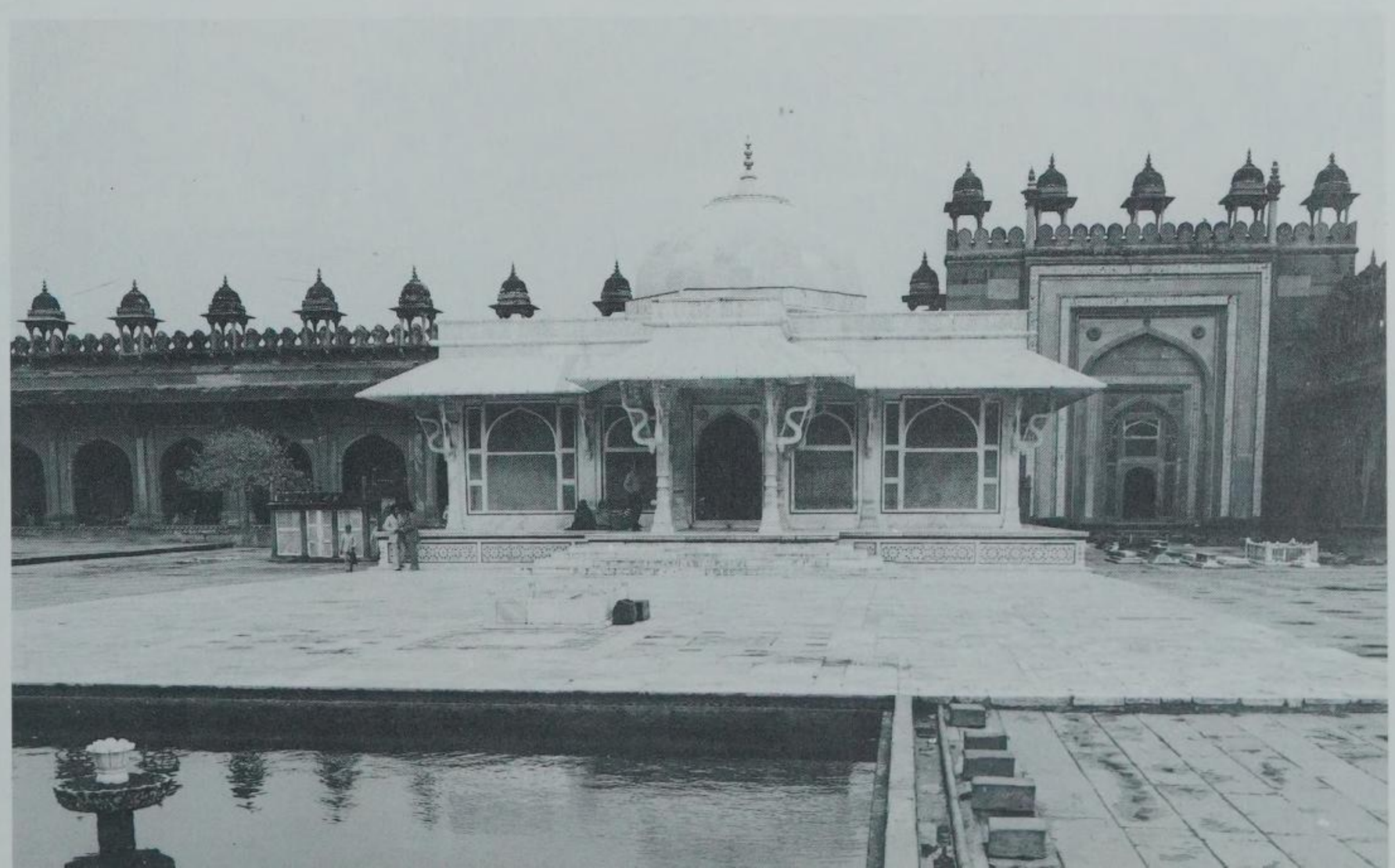


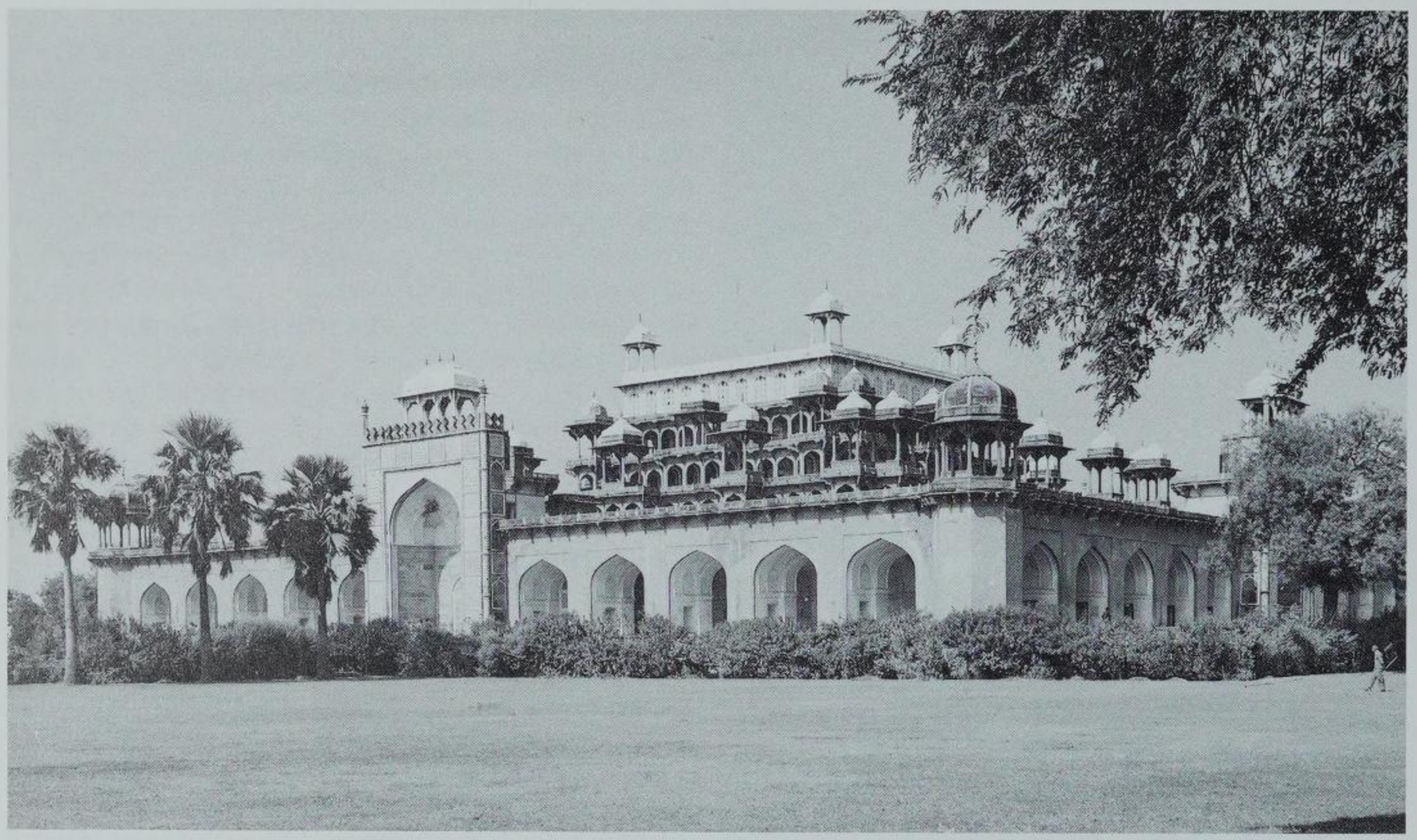
Akbar's own tomb at Sikandra, on the outskirts of Agra, was reputedly designed by the emperor himself and begun in his own lifetime but Jahangir, who completed it, asserts that the builders departed from the original conception while he was precoccupied with his rebellious son Khusru and that he had to have much of it rebuilt. As the setting for a complex that recalls the general disposition of Mahmud Khalji's Ashrafi 217
mausoleum at Mandu – a site which particularly appealed to Jahangir – the emperor adopted the *chahar bagh* formula of his predecessors. The great arcaded platform in the centre, corresponding to Humayun's and ultimately descending from the Ashrafi, recalls the nearby *baradari* of Sikandar Lodi in 193
which Jahangir interred his mother. In place of Humayun's *hasht behisht*, however, Akbar's superstructure is resolutely indigenous: it is another permutation of the age-old *prasada*.[51]

The platform, with *chattri*-crowned *minars* at each corner and an *iwan* frontispiece in the centre of each side, is linked by causeways and canals to pavilions with responding frontispieces in the enclosure. The one in the South, providing 37
the only entrance, is an enormous two-storey structure with exceptional circular white marble minarets at the corners where *chattris* might have been. All the pavilions, like the platform and its frontispieces, are lavishly ornamented with painted stucco, coloured stone and marble inlay and low relief carving, the decorative motifs including *gaja*, *hamsa*, *padma*, *svastika* and *chakra* as well as floral motifs, arabesques and calligraphy.

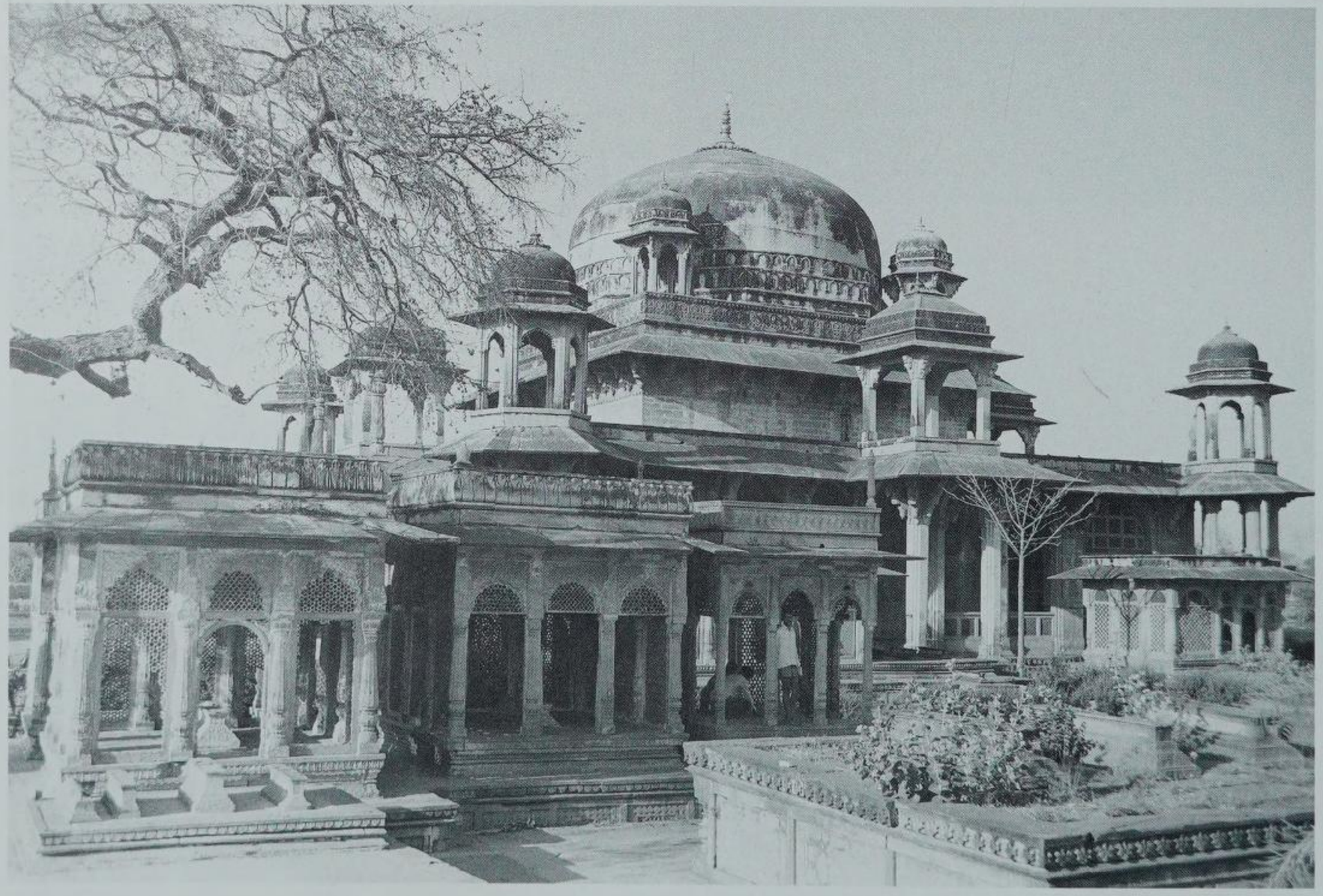
Within the platform, vaulted cells surround the mortuary chamber, as in Humayun's tomb, and a narrow inclined corridor leads to the graves from a richly stuccoed and painted vestibule in the South. The *prasada,* square in plan, has four storeys, the lower three stepped: trabeated

284 (d)



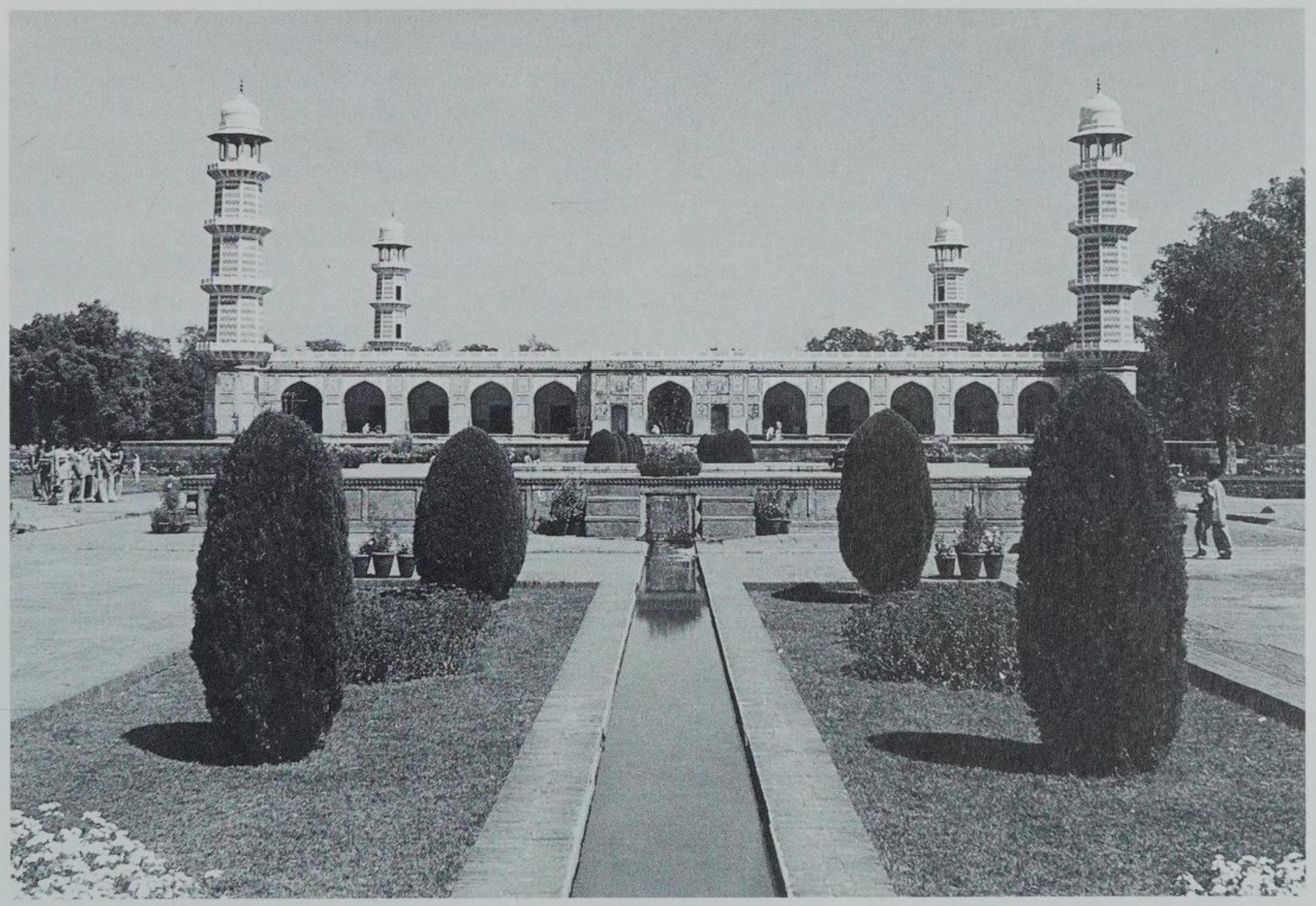


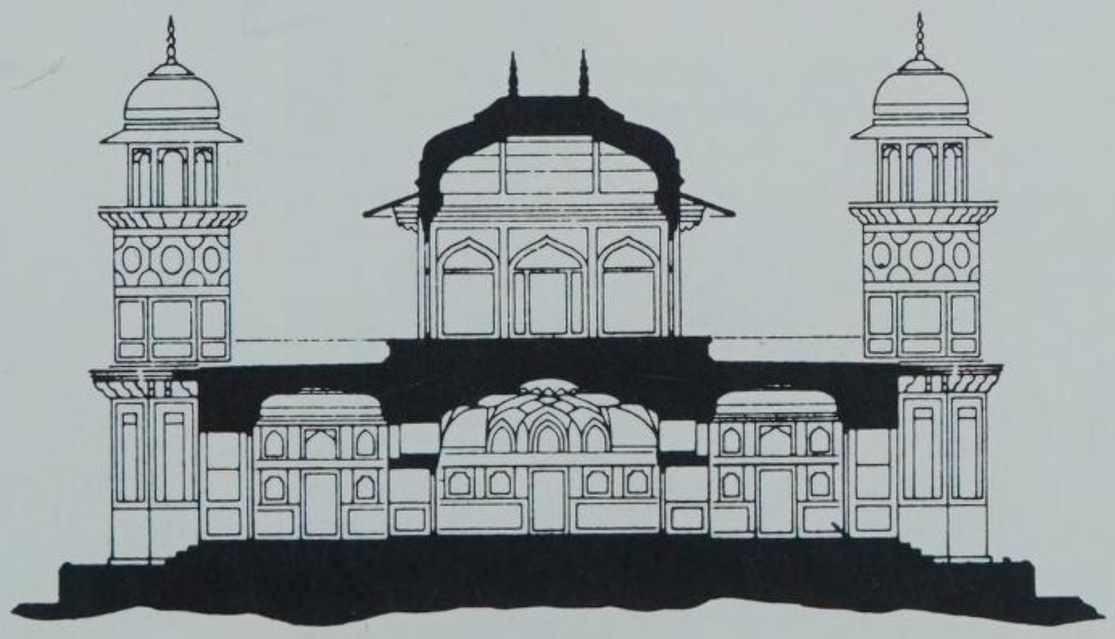
285. Agra, Sikandra: Akbar's tomb.

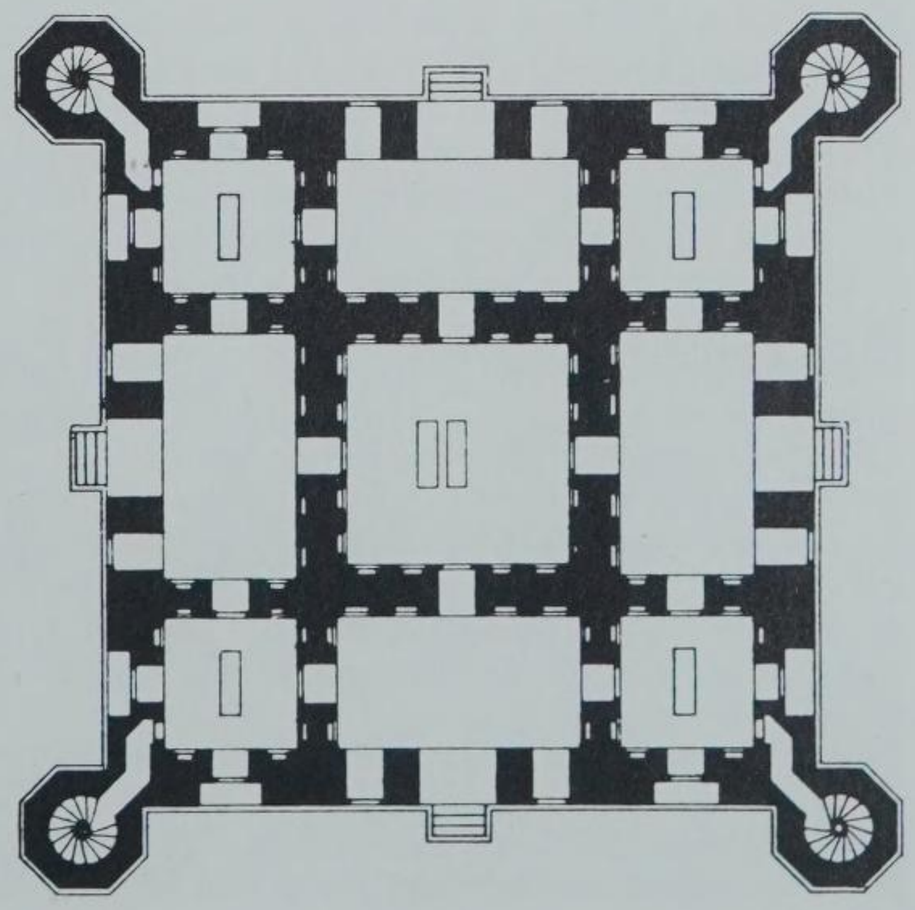


286. Gwalior, tomb of Muhammad Ghaus.

287. Lahore, Shahdara: Jahangir's tomb.







288. Agra, Itimad-ud-Daulah's tomb: plan (1:500) and section.

throughout, though with decorative arcading at regular intervals, the lower two levels break forward in the centre to support *chattris*, as in the tomb of Muhammad Ghaus at Gwalior. Concealed within the third level, sealed off from its terrace except for a narrow window high up in the south wall, is a grid of chambers with an enigmatic cenotaph at its centre. The top storey, of white marble in contrast to the red sandstone elsewhere, has an open court surrounded by colonnades with screens. The marble cenotaph, on the central dais, is inscribed with distichs in praise of Akbar or reflecting his Din-Illahi in addition to the ninety-nine names of God. Whether the cenotaph was to be covered, perhaps by a dome like that of Muhammad Ghaus, is the subject of some speculation but given the square platform and the massive piers of the third-storey grid, a canopied pavilion would certainly have been feasible.

Several tombs built at the end of Akbar's reign and under Jahangir reflect the influence of Sikandra to varying degrees, notably those of Jahangir himself and his Empress Nur Jahan at Shahdara near Lahore and of Nur Jahan's Persian
38 father, the Itimad-ud-Daulah Mirza Ghiyas Beg, at Agra. The most substantial of these is the emperor's own tomb, the most celebrated is the exquisite miniature built for his father-in-law.[52]

In the centre of the *chahar bagh*, entered from the west, the platform of each is now a low plinth and the arcaded base of Sikandra has become the main element of the mausoleum itself, with *chattris* on octagonal minarets at the corners and frontispieces in the centre consistent in scale with the flanking arcades but lightly projecting only at Shahdara. A screened pavilion covered by an elegant canopy with *padma-kosha* and *kalasha* shelters the cenotaphs of the Itimad-ud-Daulah and his wife. A similar structure was almost certainly removed from Jahangir's tomb in the 18th century by the Sikh rulers who supplanted the Mughals in the Punjab. Jahangir's mausoleum is of coloured sandstone inlaid with richly patterned marble panels. The tomb of the Itimad-ud-Daulah – in contrast to its sandstone enclosure, gate and guest house with their filigree marble mosaics – is the first to be built entirely of white marble with gorgeous *pietradura* floral ornament, Persian in inspiration.

Several mosques built later in the reign – notably at Ajmer and Tatta – reflect the influence of Fatehpur Sikri. However, the influence of Persia is more pervasive in the Begam Shahi Masjid of Akbar's widow Mariyam al-Zamani in Lahore and the Patthar Masjid of Shrinagar which ranks amongst the few important works of Jahangir's reign. Several mosques of Shah Jahan's period follow these precedents, notably those of the Nawab Wazir Khan and Dai Anga in Lahore and Nawab Gul Baqa Amir Khan's great Jami-masjid at Tatta.[53]

40;41 In the Wazir Khan's splendid brick and tile structure, the frontispiece stands out from the twin arcaded bays of the prayer-hall, themselves significantly higher than the blind arcades around the other sides of the court, and assertive minarets rise from all four corners. Cells behind the north, south and east ranges of blind arcades suggest that the mosque was also a *madrasa*. The east front is doubled to provide revenue-earning shops on either side of an internal street which cuts through the entrance pavilion at right angles to the main axis. Apart from balconies, flanking the entrance *iwan*, there is no decorative relief but, contrary to Persian practice, variation from the base plane of the wall is provided by the blind arcading and a lightly projecting rectilinear framework. The dazzling effect of the exterior is derived from the brilliant Punjabi mosaic tile work in the raised framework of contrasting glazed red brick. Inside, the painted stucco, especially over rich *muqarnas*, is equally brilliant.

The Tatta Jami-masjid, built on the emperor's order, is an imperial expansion of the Wazir Khan type. It has two domed entrance halls, flanked by a pair of courts, in place of the Wazir Khan's bazaar. Double rows of domed bays surround the court and the composition culminates in the great *mihrab iwan* and *qubba* on axis, of course, with the domes of the entrance. The tile revetment is perhaps the most resplendent in the Subcontinent.

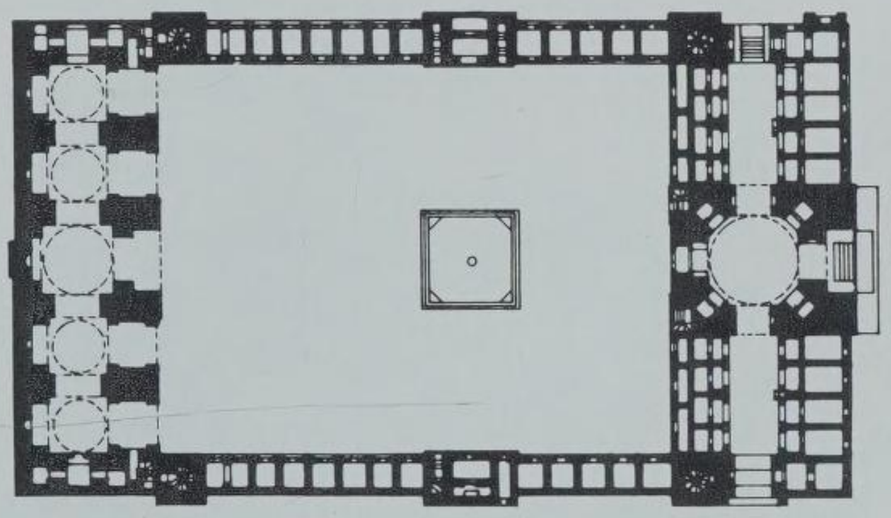
Shah Jahan and his successor were prolific mosque builders – Aurangzeb even notorious in his iconoclastic replacement of temples. The Jami-masjid of Shahjahanabad developed the *iwan* plan precedent of the Badshahi Masjid at Fatehpur Sikri – on an even larger scale – and set the example for India's last Imperial mosques, notably Jahanara Begam's at Agra and Aurangzeb's at Lahore. In between, Shah Jahan's architects adopted the alternative scheme of an open arcaded prayer hall, co-terminous with the *qibla* wall and without frontispiece or minarets, for the superb Mothi Masjid in Agra Fort.[54]

Apart from its striking colour scheme, the Jami-masjid of Shahjahanabad draws its effect from the combination of the 43(b)
native *chattri* with the imported *iwan* and bulbous dome – as much Deccani as Timurid in profile. Like many of its Indian predecessors, it is raised on a platform surrounded by arcades but with a rare concern for external effect, the platform is high enough for arcades to be left open on both sides without risk of pollution. Monumental flights of steps ascend to the emperor's eastern entrance, inspired by the Buland Darwaza, and to subsidiary ones for the public north and south. To some extent this arrangement recalls the four-*iwan* plan common in Iran after the Seljuks. As at Fatehpur Sikri, the cloisters return around the western side but the much more elevated prayer hall is projected into the court as a totally free-standing block, as in Delhi's Afghan mosques. Unlike theirs, on the other hand, but as in many Timurid and Safavid works, the frontispiece rises high above the five bays of each wing to mask much of the great *qibla qubba's* dome; there are no *chadyas* and *chattris* are used only on the entrance pavilions, on the rear corners of the prayer hall, where they

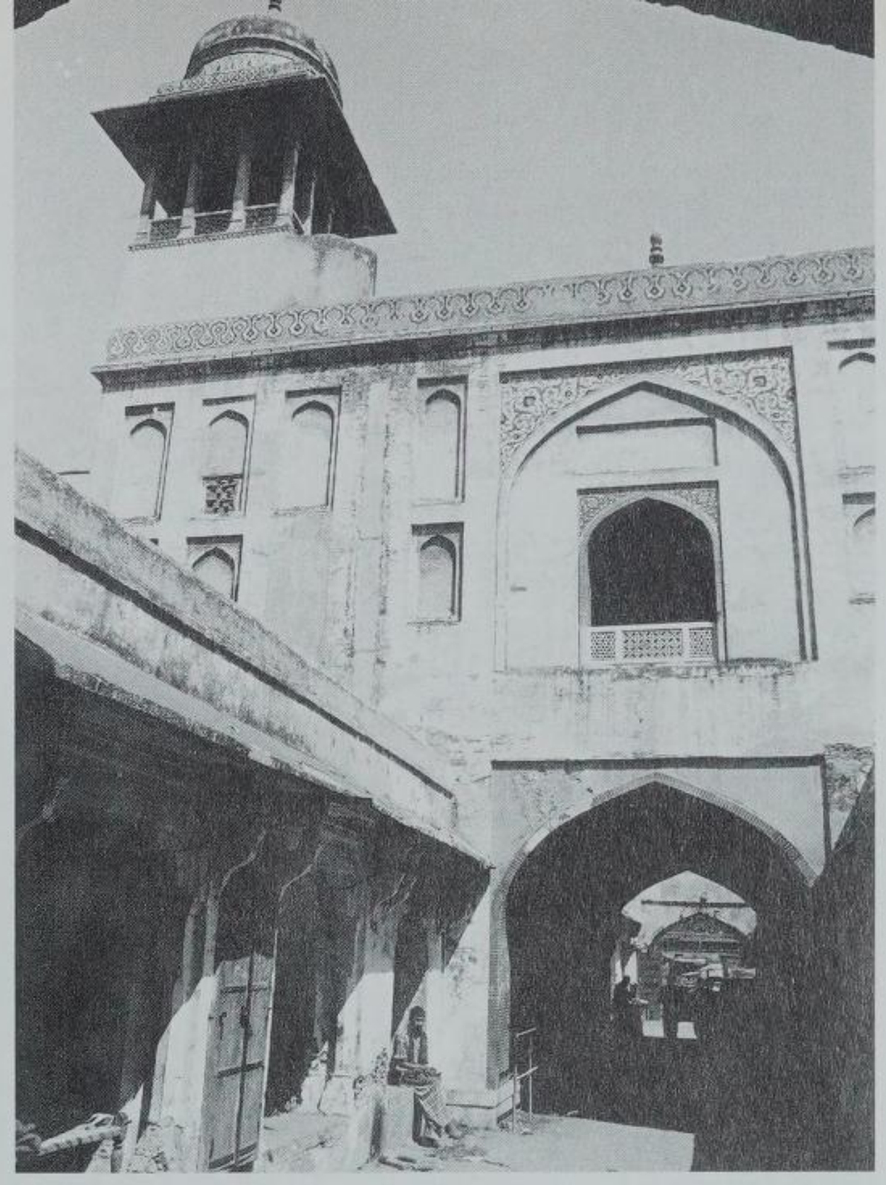
289. Lahore, Wazir Khan Masjid: **(a)** plan (1:1000); **(b)** entrance pavilion and bazaar; **(c)** court and prayer hall from south-east.

stand in for the elegant minarets of the main facade, and over slender miniature minarets applied to the sides of the frontispiece in the Safavid manner. The arches of prayer hall and cloisters are all cusped but the former rise from piers, the latter, smaller in scale, from slender columns.

The Jami-masjid at Agra is much more modest in scale than the one at Delhi. The cloisters do not return around the west side. The five-bay prayer hall, with broad piers between its twin arches either side of the frontispiece recalls that of the Wazir Khan at Lahore but it stands out rather more prominently as a self-contained block. The domes are raised



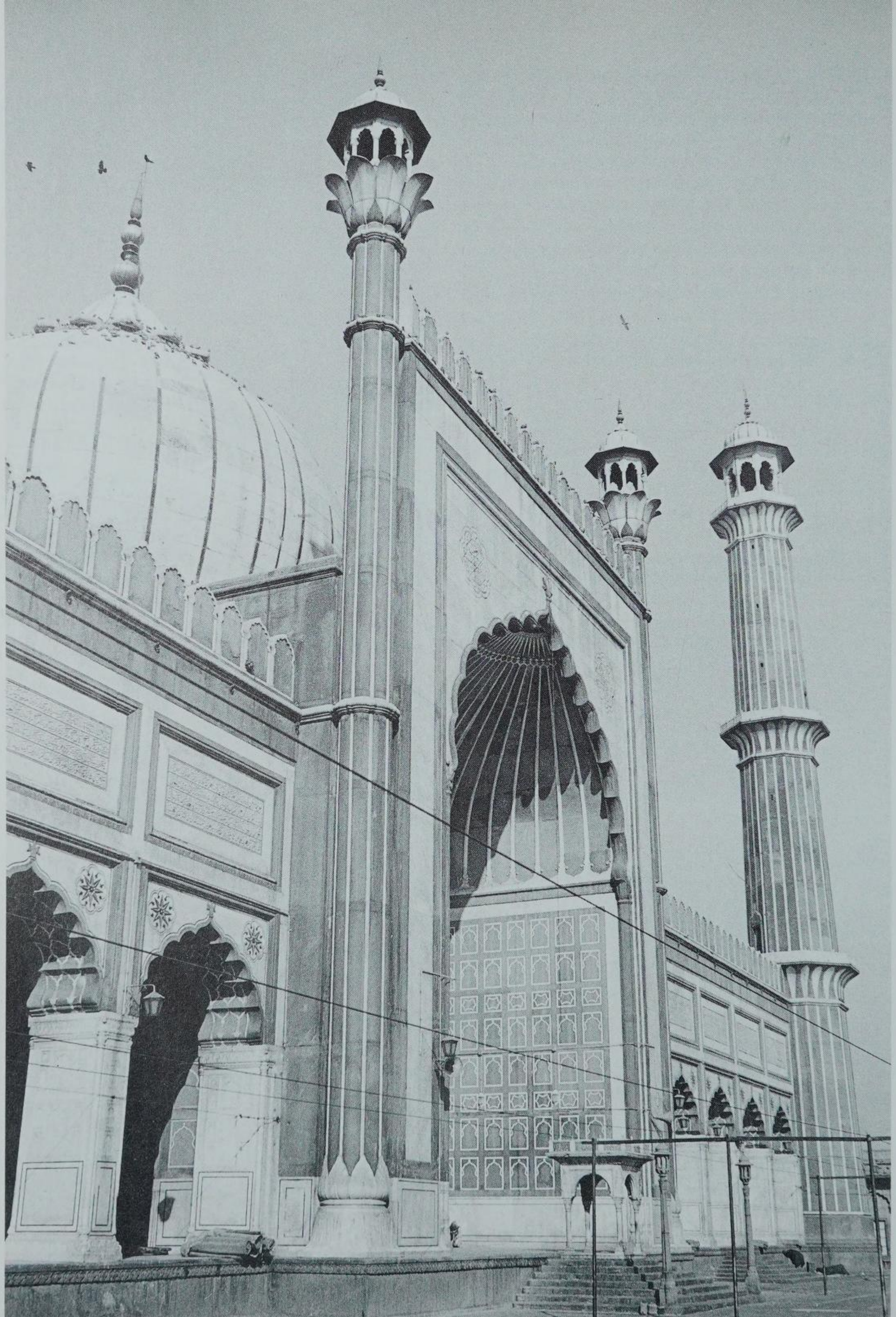
289 (a)



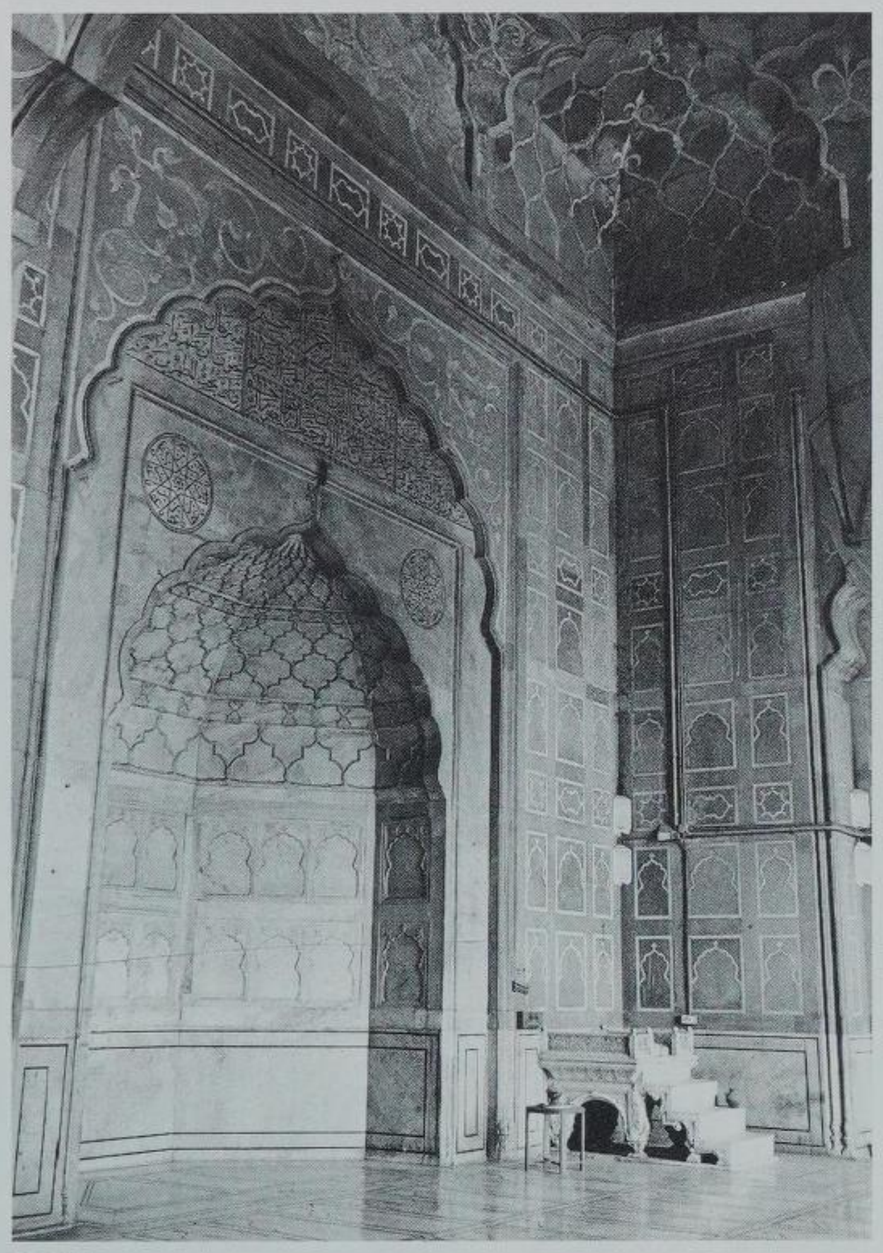
289 (b)

289 (c)

290. Delhi, Jami-masjid of Shah Jahan **(a)** frontispiece from south-east; **(b)** central *mihrab* bay.



290 (a)

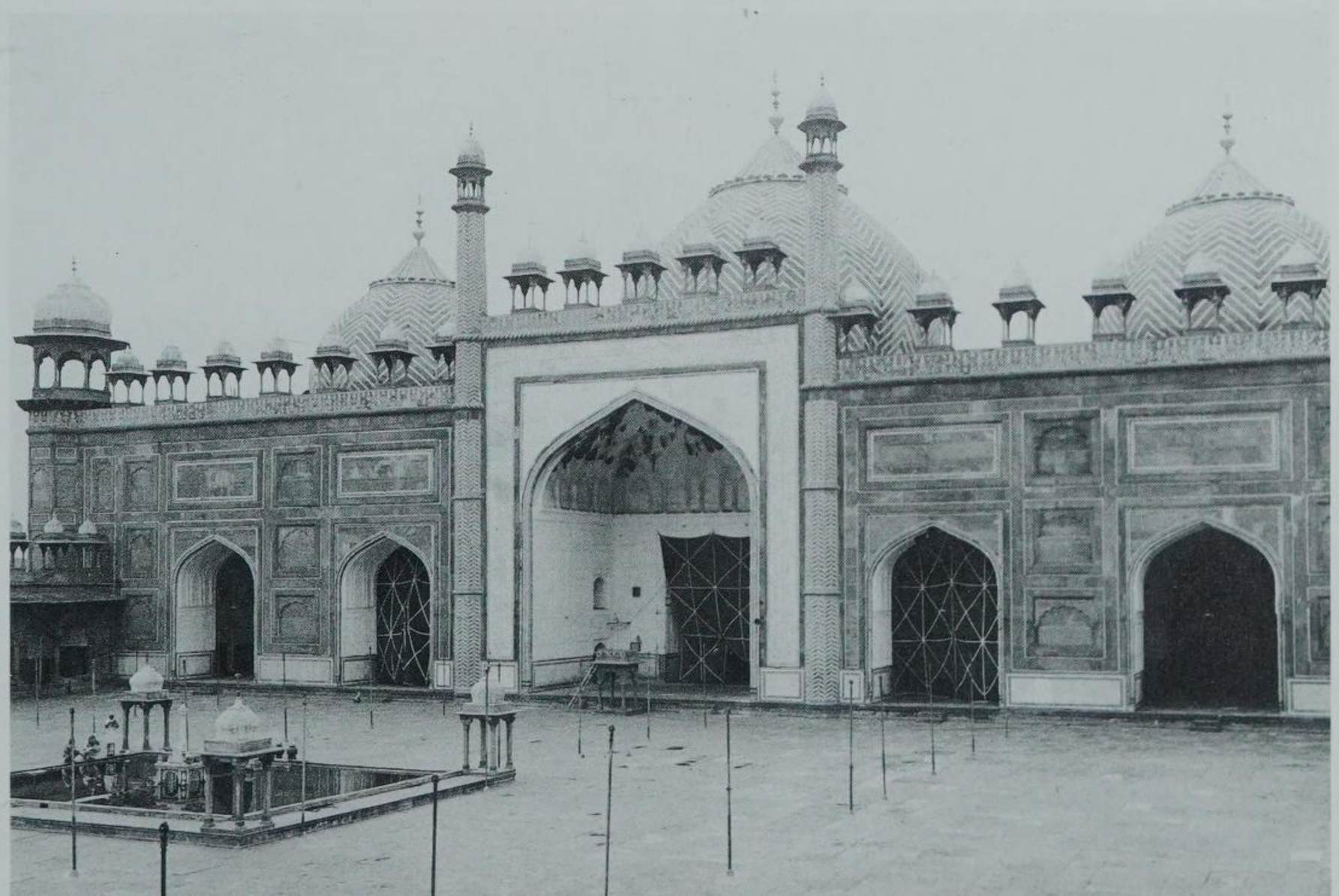


290 (b)

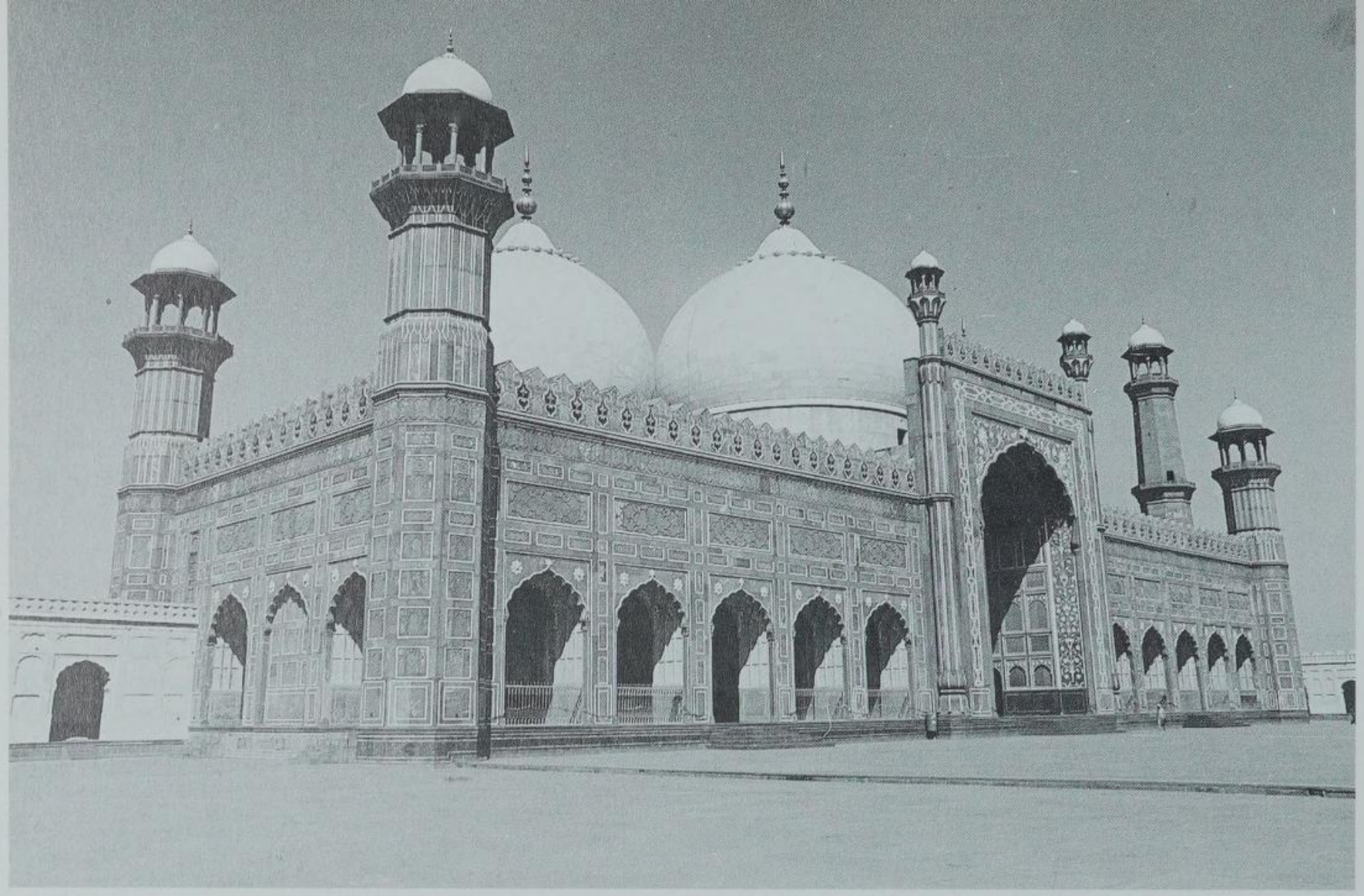
on low plinths rather than drums and though the frontispiece is relatively short, it still obscures much of the central one. A *chattri* on an octagonal pier provides a minaret at each corner of the prayer hall and compound, in addition to the miniature ones applied to the frontispiece. As at Fatehpur Sikri, rows of small *chattris* crown all the elements of the complex. White marble is used for revetment only on the frontispiece, though it is inlayed to frame the panels which relieve the red sandstone wall of the wings, and for the dazzling chevron pattern of the domes.

In the Agra Mothi Masjid, *chattris* are used instead of minarets on all four corners of the prayer hall, with smaller *chattris* between, and the three bulbous domes rise unobscured over a pronounced *chadya* shading the cusped arcades. With maximum consistency of form, these arcades are repeated on the smaller scale of the cloisters to flank the three matching, *chattri*-crowned entrance pavilions. No sandstone is visible behind the white marble revetment, and the black marble used only for the calligraphy merely accentuates the Mothi Masjid's chaste elegance. *43(a)* *277(b);*

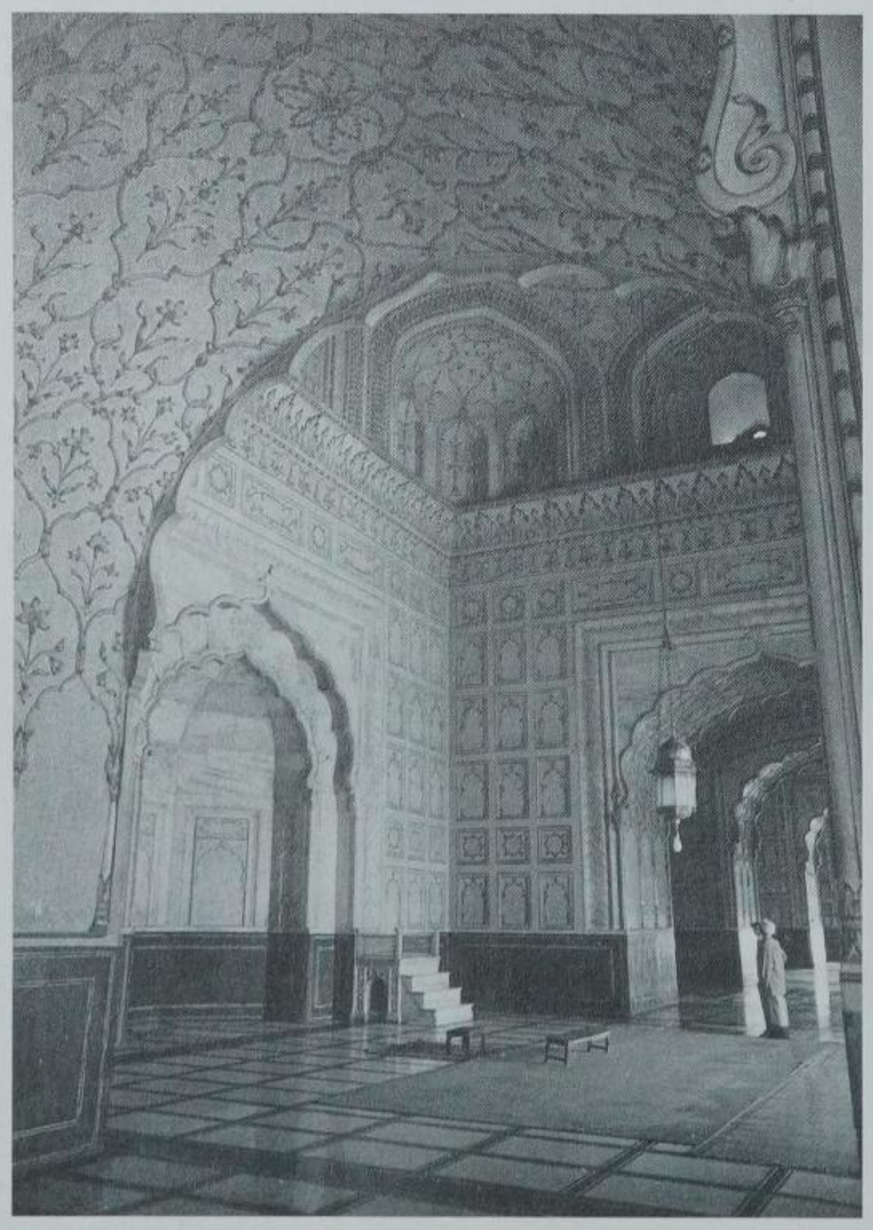
The Badshahi Masjid at Lahore is comparable to the Delhi one in size and importance, but its splendid free-standing prayer hall has a minaret at each corner, and so too does the vast court. Like the Lahore Mosque of the Wazir Khan, the cloisters are walled on both sides, with arched entrances only at regular intervals and there is only one portal facing the square before the main gate of the fort. As in the Agra Jami-masjid, white marble is used only to provide relief to the red sandstone outside, but here it is rather too delicately *43(c)*



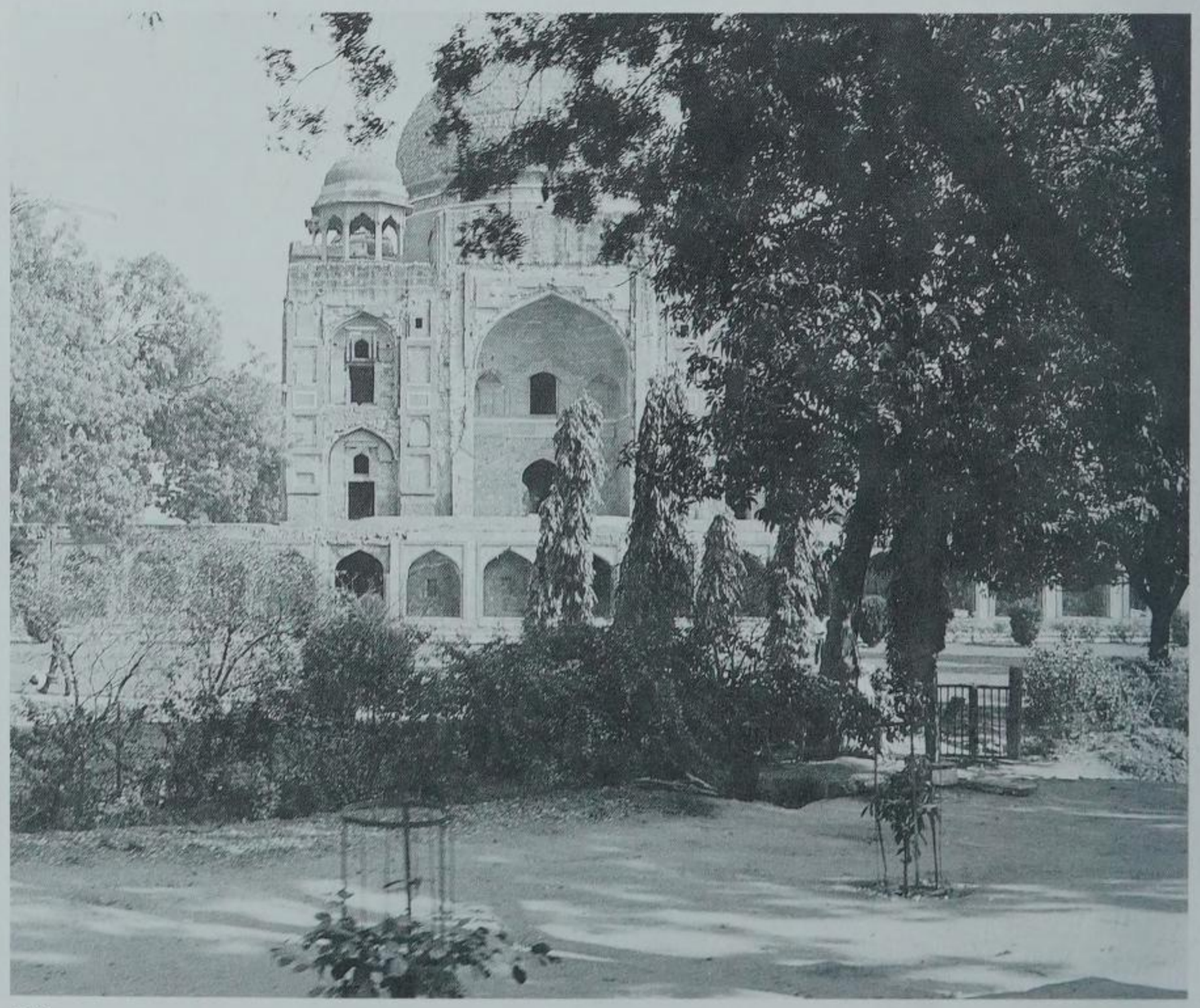
291. Agra, Jami-masjid: prayer hall from north-east.



292 (a)



292 (b)



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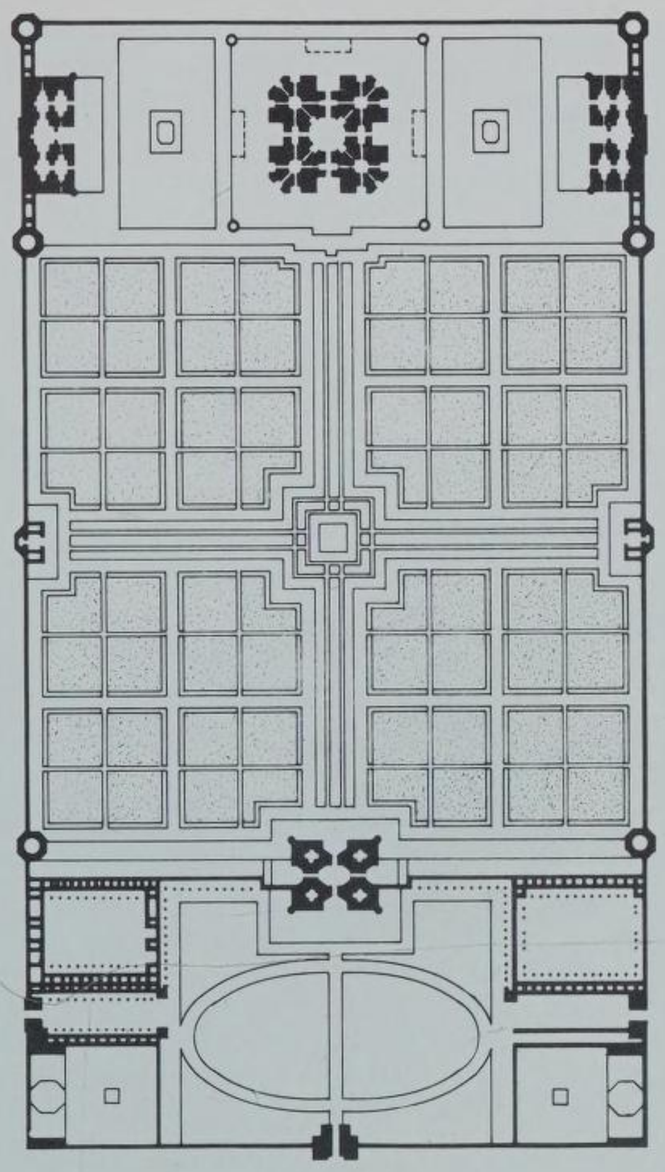
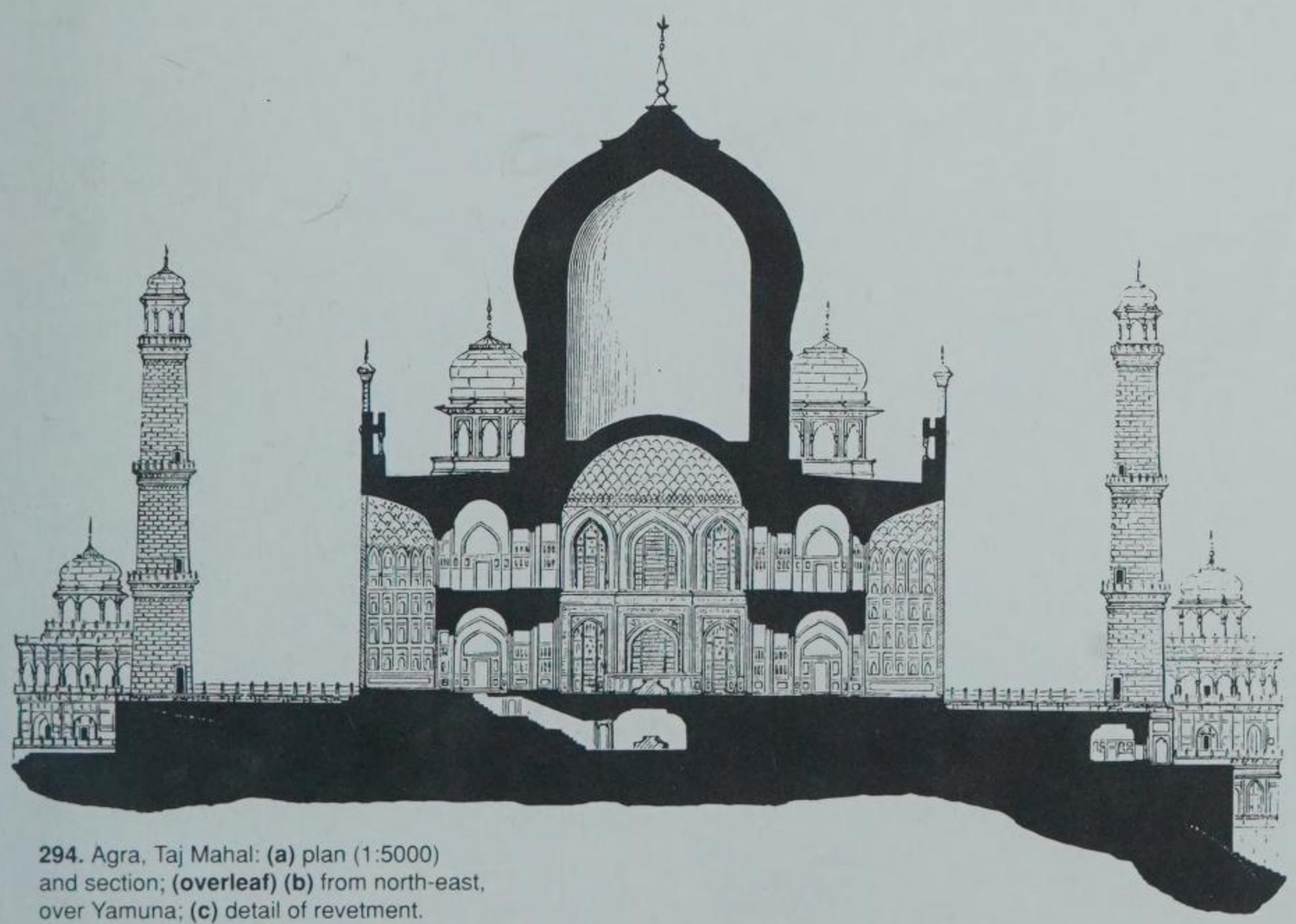
292. Lahore, Badshahi Masjid: **(a)** court and prayer hall from south-east; **(b)** central *mihrab* bay.

293. Delhi, tomb of Khan-i-Khanan Abdur-Rahman.

294 (a)





294. Agra, Taj Mahal: **(a)** plan (1:5000) and section; **(overleaf) (b)** from north-east, over Yamuna; **(c)** detail of revetment.

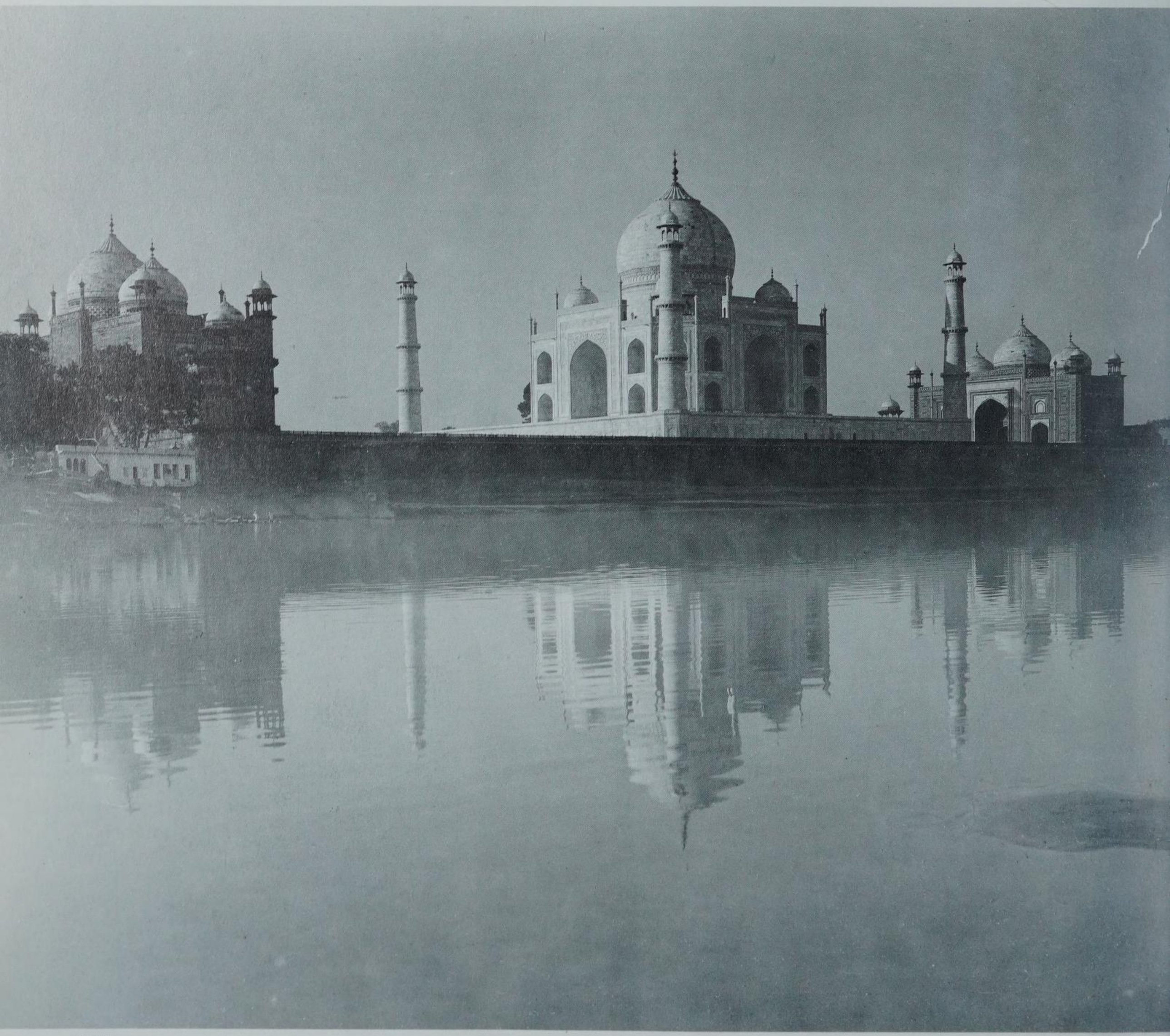
restrained for the large scale of the building. The interior at Lahore, too, approaches the effete with a web of stucco work, picked out in gold which covers virtually every surface except for the white marble *mihrab*.

Late in Jahangir's reign the architects of the Delhi tomb built for Abdur-Rahim, Khan-i-Khanan, reverted to the Persian tradition of the superstructure with *iwans* flanked by superimposed arcades and crowned by a bulbous dome: unlike Humayun's tomb nearby, however, it is higher than it is wide, like many Lodi works, and the four *chattris* are clustered more closely about the drum. Other tombs, like the octagonal one at the approach to Humayun's, continue the trend towards enhanced height and compactness and, sorry relics though they are without their revetment, their importance lies in the precedent they provided for a revision of Humayun's broad, static, five-part composition to achieve the dynamic, aspiring Taj Mahal which took the Muslim architectural tradition in India to its apotheosis. 44

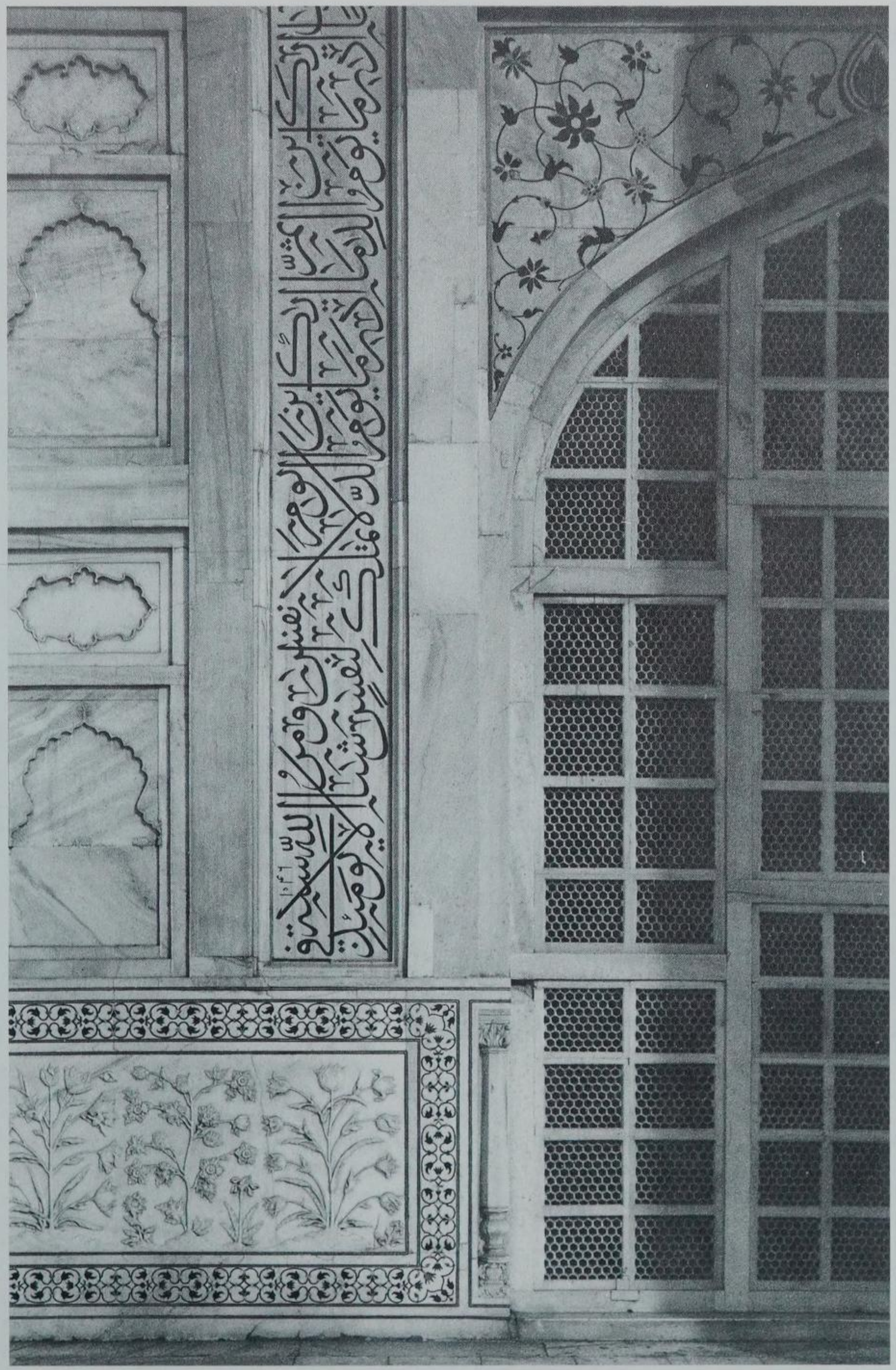
Founded in the fifth year of the reign to enshrine the remains of Shah Jahan's favourite wife, Mumtaz Mahal, the main mass of the Taj Mahal is a totally integrated entity on a riverside terrace beyond its *chahar bagh.* There, the culmination of a now clearly dominant axis denying the centralization of the garden, its reflected verticals are resolved in both directions. Yet, elusive in scale, it is ambiguous in form: the main arcades express the fusion of the five elements of the *hasht behisht*; the dome and *chattris* express their distinction. And the materials – the water of canal and river as much as the substance on the terrace – takes this incomparable work even further from the realm of rational analysis. In contrast to the red sandstone mosque and guest-house flanking it, the mausoleum is built of marble of legendary beauty passing through a range of colours from peach to pearl according to the light of sun, moon or stars.[55]

Both the main causeways of the *chahar bagh* have exceptionally broad, cypress-lined water channels, which meet in a raised lotus pond. The cross axis terminates in water pavilions, but only the north-south axis, which leads from gate to tomb, has fountains, and the directional logic in the conception is reinforced by the triad of red sandstone buildings, the entrance pavilion, the mosque and matching guest-house which flank the mausoleum. The platform, with the mortuary chamber deep within, is a consistent feature of the great Mughal tombs but here it is of marble and the arcading is blind. Humayun's platform tends to mask the mausoleum itself: here it is lower in proportion to the superstructure and, given the greater distance of view, the latter stands out unmasked on first appearance from the entrance gate.

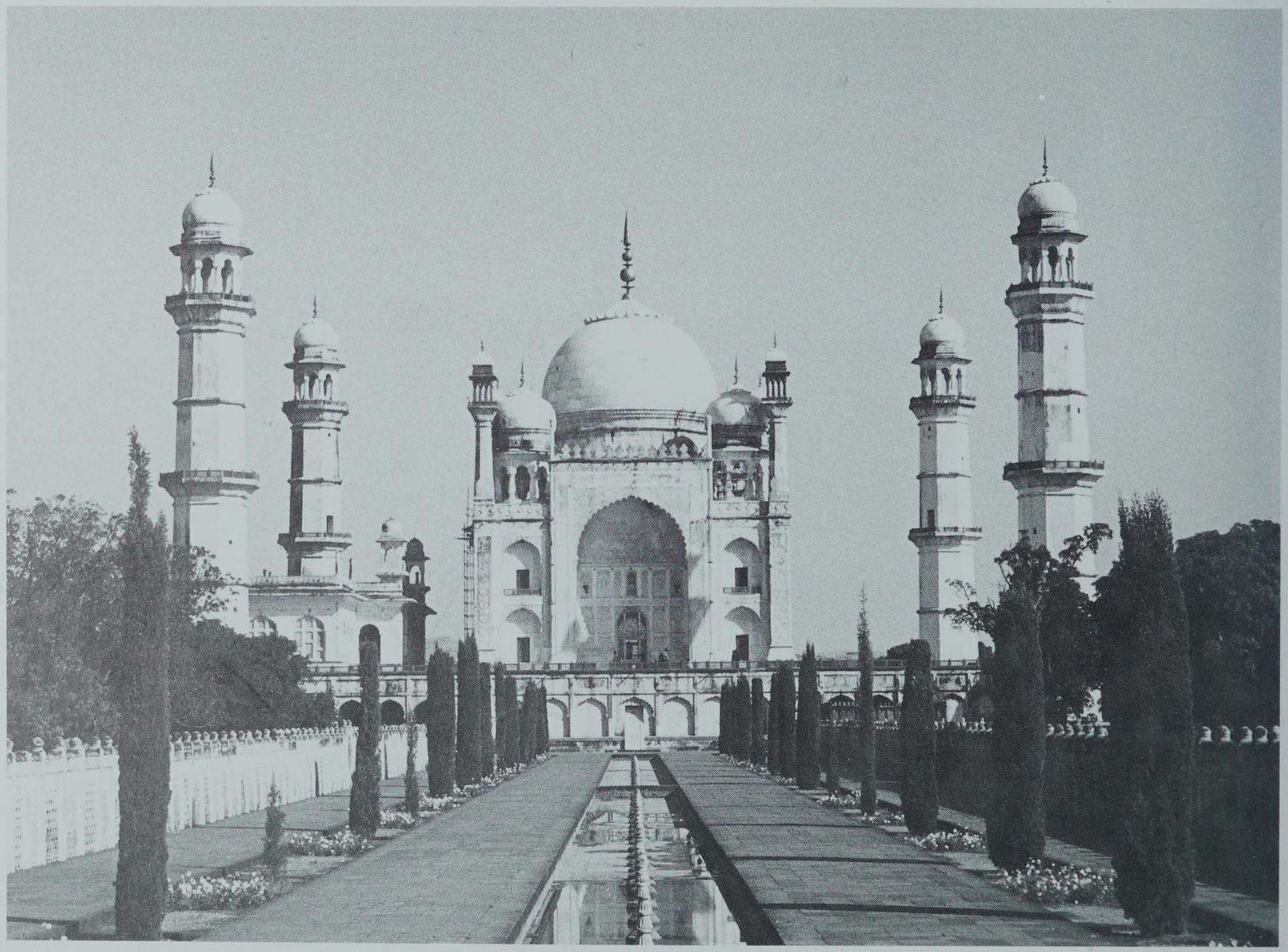
The *hasht behisht* emulates Humayun's in scale, if revising the proportions to enhance the verticals. As in the prototype, vestibules behind the great *iwans* are linked by corridors to subsidiary *chattri*-crowned chambers superimposed on the



294 (b)



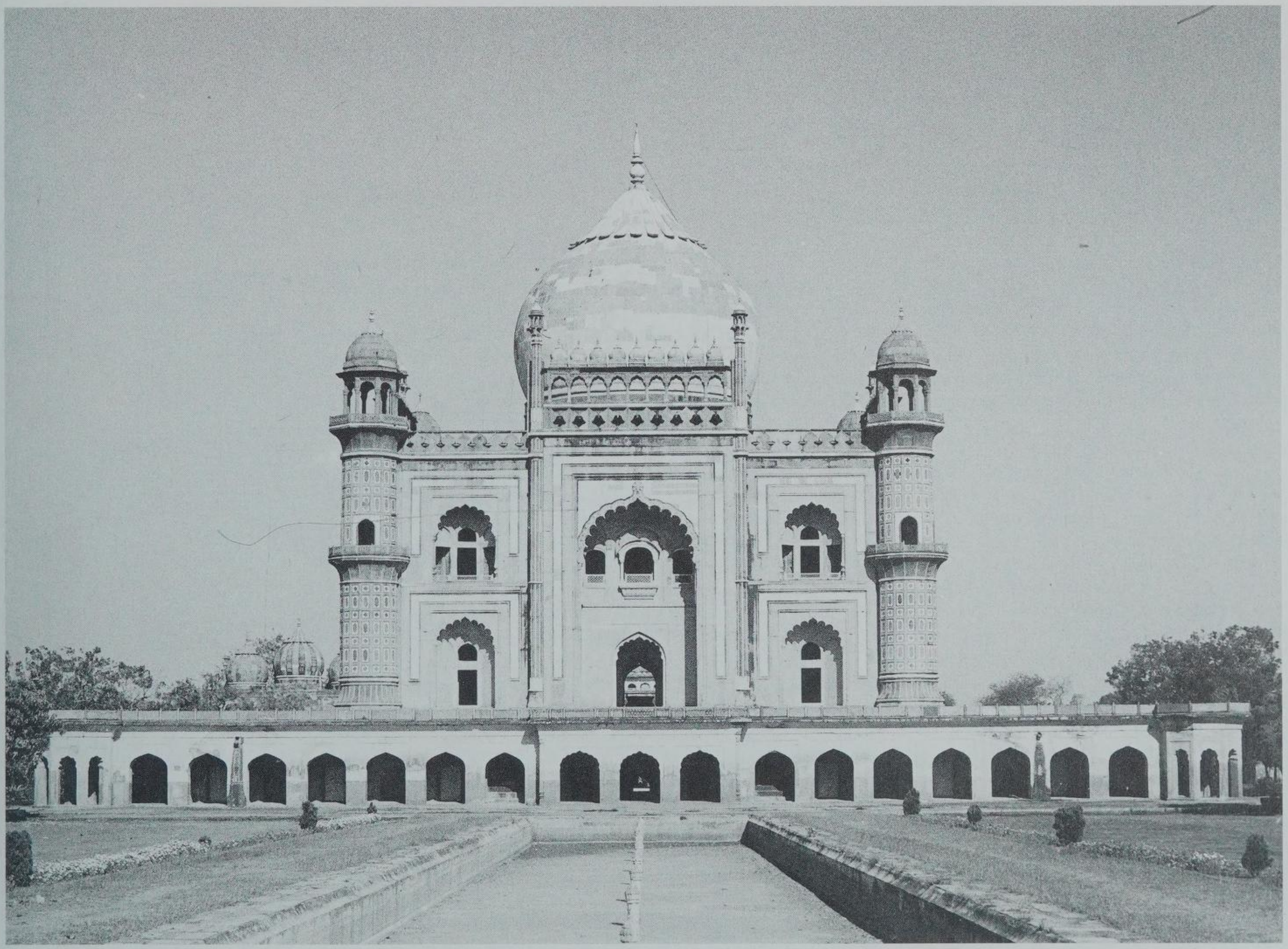
294 (c)



diagonals, and to the great central chamber, but the four corner elements are denied autonomy. Their inner bays are eliminated and the arcading is defined by slender shafts enhancing the verticals without vigorous changes in plane – apart from the canted corners opposite which the minarets stand detached. The dome, more elevated, more bulbous and with a steeper profile more clearly reminiscent of Gawhar Shád's work at Mashad, rises high over the closely associated *chattris* and frontispieces because of the enormous disparity between its inner and outer shells, as in the Gur-i-Amir. A dado of unsurpassed richness incorporating flowering plant motifs – as of the living paradise – runs around and through the building, ringing the sumptuous screened cenotaphs of the empress and her husband below the dome. The exquisite floral and geometric ornament in low-relief carving and semi-precious stone inlay, which textures vaults and spandrels, like the black marble calligraphic bands of the frontispieces, becomes legible hardly before the relationship between solid and void is no longer appreciable in its totality.

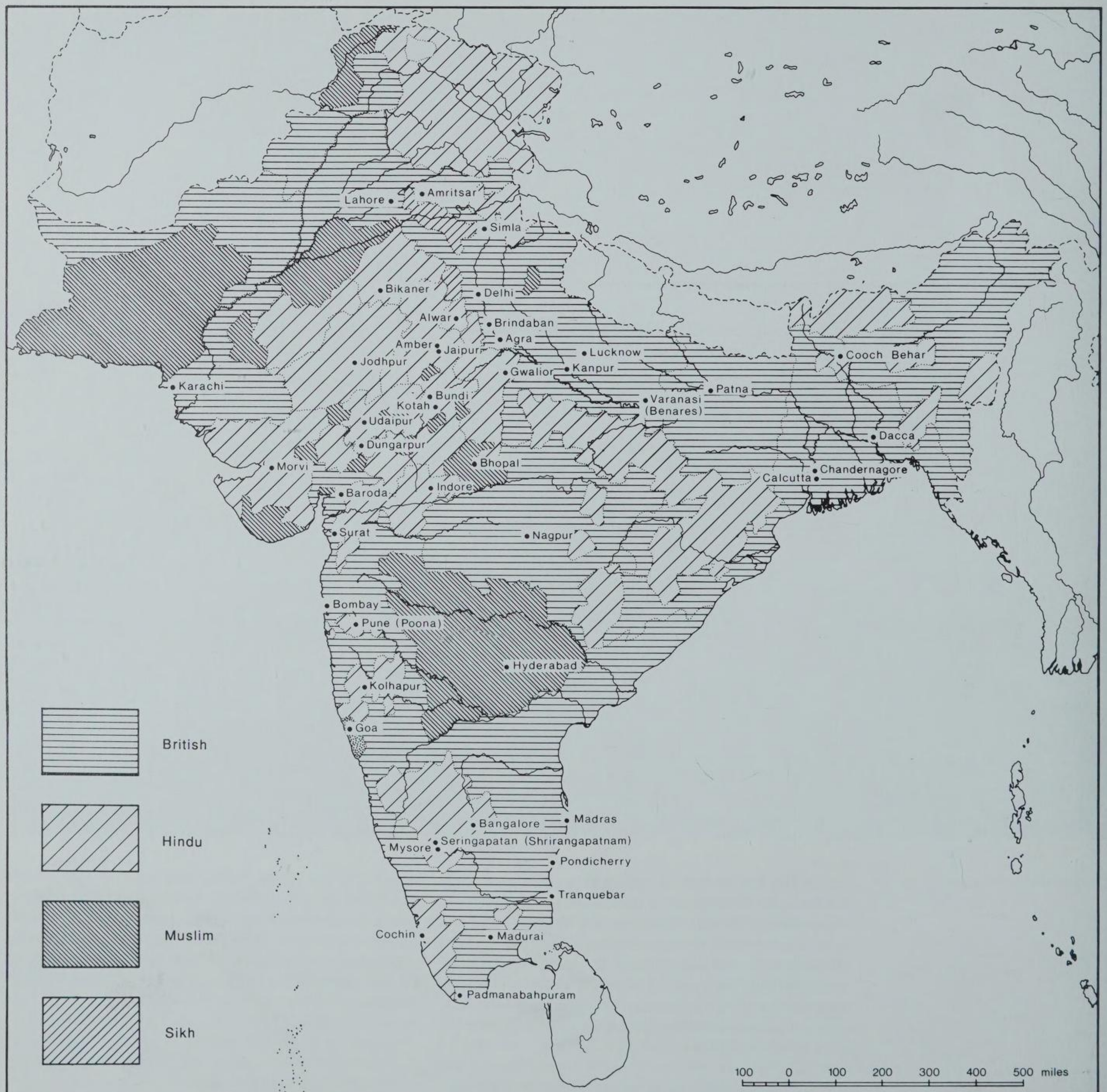
That the composition of the Taj Mahal admitted of no improvement is demonstrated by the only two significant attempts at its emulation: the tomb of Rabi Daurani, wife of

295. Aurangabad, tomb of Rabi Daurani ('Bibi-ka-Maqbara').



296. Delhi, tomb of Safdar Jang.

Aurangzeb, built at Aurangabad less than thirty years later and the tomb of Safdar Jang, Nawab of Oudh, built in Delhi in the mid-18th century. Beyond confusing architecture and ornament, the most serious miscalculation of Aurangzeb's architect, still aiming at aspiration – and not failing altogether to charm – was the stressing of the corners with additional minarets. Seeming superfluous, they provide a tight, four-square discretion which denies any sense of *gravitas* to the whole. The architect of Safdar Jang realized this but the logic of his static conception is elementary and the whole is unfortunately reduced to the effete by the fussy detail which provides mere relief instead of virile differentiation – as in the neighbouring masterpiece of Humayun which set the standard so astonishingly sustained in the era of Great Mughal patronage.


Lahore
Amritsar
Simla
Bikaner
Delhi
Alwar
Brindaban
Agra
Amber
Jaipur
Jodhpur
Lucknow
Cooch Behar
Kanpur
Gwalior
Karachi
Patna
Bundi
Varanasi
(Benares)
Kotah
Udaipur
Dacca
Dungarpur
Bhopal
Morvi
Chandernagore
Calcutta
Indore
Baroda
Surat
Nagpur
Bombay
Pune (Poona)
Hyderabad
Kolhapur
Goa
Bangalore
Madras
Seringapatan (Shrirangapatnam)
Mysore
Pondicherry
Tranquebar
Cochin
Madurai
Padmanabahpuram
British
Hindu
Muslim
Sikh
100 0 100 200 300 400 500 miles

4 Late India

Sectarian Division and Colonial Rivalry

The measure of political unity achieved in the Subcontinent under the Great Mughals gave way before the sectarian division promoted by orthodox Muslim opposition to Akbarian 'heresy'. Matters came to a head under the ageing Aurangzeb. On the one hand, hard pressed on campaign in the Deccan for the last decades of this reign, the emperor pursued an uncompromising Sunni revival. On the other hand Hindu *bhakti* enthusiasm, fired by the great sage Chaitanya, had elevated the Krishna cult to pre-eminence centred on Brindaban by the Yamuna. Moreover, opposition from the Mughals forged several new faiths into militant religious sects, in particular the Sikhs of the Punjab and the Marathas of the Western Ghats. The Sikhs, followers of a succession of *gurus* based on Amritsar, had been driven into the wilderness by 1716. After the death of their inspiring leader Shivaji, the Marathas emerged from Aurangzeb's protracted persecution as rapacious marauders whose activities knew no bounds and earned them few friends.

Meanwhile, as a result of reverses at home the Portuguese – ruthless and efficient in pursuing trade, intolerant in their Christianizing mission – had ceded their predominance amongst Europeans in the East to the Dutch and the British, then leading the fight against Portugal's declining Spanish masters. The Dutch concentrated on developing the spice trade with the Indies and had limited interests in India but the East India Company of London, chartered at the end of 1620 and excluded by the Dutch from the principal sources of spice, had little option but to seek concessions from the Mughals to deal in less profitable Indian commodities such as cotton. Wresting command of the sea and protection of Indian maritime traffic from the Portuguese early in the 17th century, they first concentrated on Surat, but in 1640 they were granted the site of Madras – in the vicinity of the Portuguese Sao Tome – as a concession by the Chandragiri authority which descended from the expiring Vijayanagaran regime. Bombay, acquired by Charles II in 1661 as part of Queen Catherine of Braganza's dowry, was ceded to the Company in 1668 and by 1690 Calcutta had been secured as a base for trade with the richest of Indian provinces, Bengal.

297. India at the height of the British Raj.

By the end of the century the Company had constituted these establishments as autonomous Presidencies, the progenitors of British authority in India. The French and Danes had gained footholds by the early-18th century, the former becoming particularly active at Pondicherry and Chandernagor after 1720. In the wake of the traders came missionaries, travellers and adventurers of whom several are notable for their commentaries on the contemporary scene.[1]

The Demise of the Mughals and British India

Weakened by their conflict with the Marathas, though momentarily revived by the able Bahadur Shah (1707–1712), the Mughal regime was undermined by succession struggles after 1712 and was impotent in the face of repeated disaster. A former mainstay, the Nizam-ul-mulk Asaf Jah, carved out a virtually independent kingdom in the eastern Deccan based on the Qutb Shahis' old capital, Hyderabad. The Marathas overran much of central India, plundered the outskirts of Delhi in 1738 and forced the cession of Malwa. In 1739 the Persian Nadir Shah humiliated the emperor, occupied Delhi and stole the Peacock Throne. He was content with retaining much of Afghanistan but under pressure from his successor, Ahmad Shah Abdali, the Mughals lost their grip on Gujarat in 1750, Oudh and Punjab in 1754. Ahmad Shah finally took Delhi in 1756 and the Mughals called on the Marathas for help. Both were smashed at Panipat in 1761 but Ahmad Shah returned home, leaving a power-vacuum. This was filled by distinct Maratha factions in Maharashtra, Baroda, Nagpur, Indore and Gwalior. The Rajputs had lost what faith they had had in the Mughal imperial ideal – indeed for most Hindus it had turned sour under Aurangzeb – and reasserted their independence. The Muslim magnates resorted either to refuge in fatalism or to carving out kingdoms for themselves. The Sikhs returned to harass the Punjab once more and their great leader, Ranjit Singh, was to gain most of it before the end of the century.

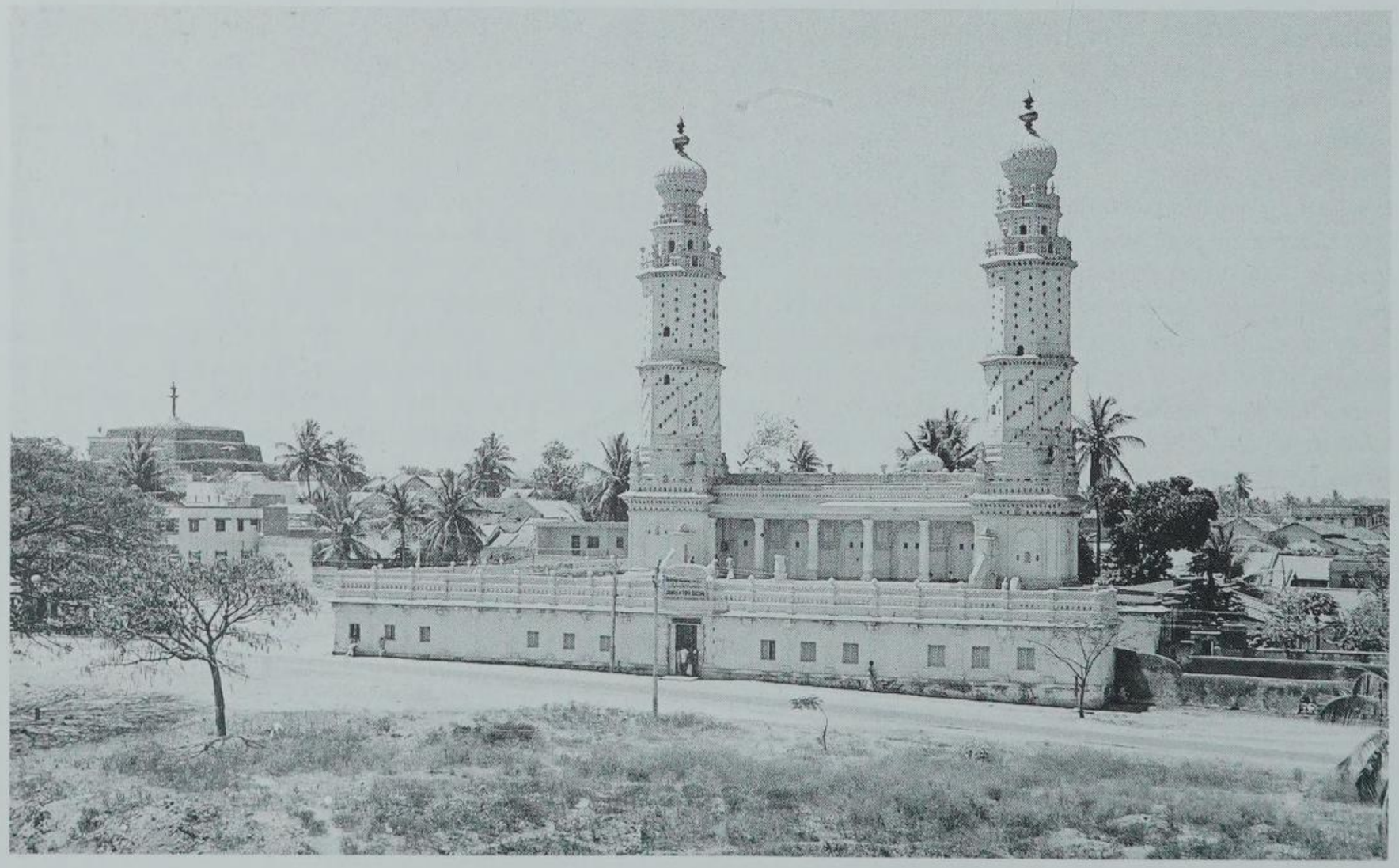
The state of confusion created by these contending forces within the Subcontinent left India vulnerable to a superior external power, as so often in the past: with the defeat of the French in the Seven Years War, that power was Britain. Generally superior as the arms and materials of the

Europeans were, Indian factions were usually ready to call on them for aid and with their activities in Hyderabad, the French had led the way in turning aid into domination. The British, in particular Robert Clive, were quick to emulate the French. Sent to deal with the Nawab of Bengal, who had taken the opportunity of the Seven Years War to expel the British from Calcutta, Clive not only retook the British station but expelled the French from nearby Chandernagor and succeeded in engineering the Nawab's replacement by a more tractable ruler. These manoeuvres committed the East India Company to increasing political involvement in Bengal. Following a period in which its servants plundered the province, a concerted effort at reform and regularization under Warren Hastings culminated in the establishment of a Governor-General in Bengal with authority over all three Presidencies and the subjection of the Company to the direction of the British government. Hasting's most substantial successor, Lord Cornwallis, instituted rational, but distressing, land revenue reforms and established the ideals of the rule of law and honest administration based on a clear distinction between public service and trade – if also on an unhappy one between Indian and European.

Though non-aggression – along with the promotion of the welfare of the inhabitants of territory ruled by the British – had been a directive of the reformers, Cornwallis's successors saw themselves as having to decide whether British interests in trade with India, and especially trade between British India and China, would best be furthered by living with chaos in most of the Subcontinent or aiming at the imposition of a British order over the whole of India. They chose the latter and initiated an imperial policy with the suppression of the rising Muslim power in the South, Tipu Sultan of Mysore.

The complex history of British India, leading to the extension of British rule over two-thirds of the Subcontinent and culminating in the emergence of the independent states of India and Pakistan at the end of our period, is outside the scope of this brief survey. Even before the British Crown superseded the East India Company on the suppression of the 'Mutiny' in 1858, the pattern of patronage was set: with British dominance came English education, industrial technology and Westernization – English supplanting Persian at the official level, local languages asserting themselves at the parochial level. Beyond the fields of administration and law, the British contribution to India may be weighed with the products of primary and secondary industries implanted and measured in miles of waterways, highways and railways constructed. Its monuments are modern cities and ports, as centres of commerce and industry as well as administration, from Karachi to Dacca and Cochin but especially, Calcutta, Bombay, Madras and New Delhi, the ultimate seat of imperial authority itself.[2]

If building activity in British India was to be dominated by



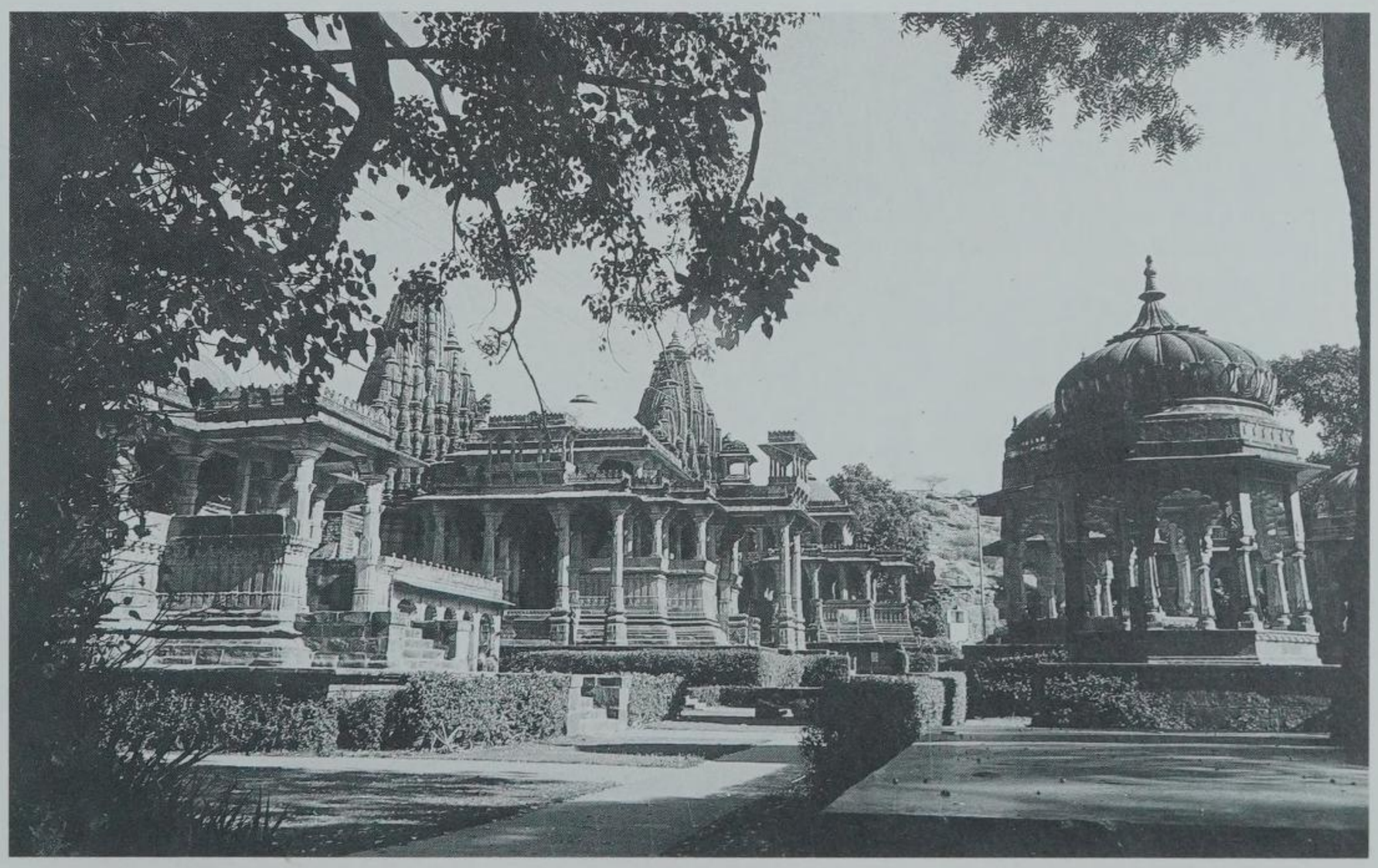
298. Shrirangapatnam: mosque of Tipu Sultan.

public works – and, as in the metropolitan power, the Industrial Revolution prompted a proliferation of new building types – the other one-third of the Subcontinent was divided amongst some 500 native rulers many of whom, trained as model princes by their moralizing masters and rewarded with special dignity for loyalty, poured their resources into lavish programmes of increasingly Westernized palace building. The eclectic clash of historical styles, variously pretending to relevance for modern building, was heard in India as in Britain. There too the intervention of the first wave of design reformers established the moral and aesthetic values of Gothic as pre-eminent for the public works of a Christian power. In this field, as in that of princely building, the second wave of reform at home, primarily vernacular in inspiration, promoted renewed interest – official and scholarly – in India's heritage. Restoring antique Indian styles to a prominent place in the repertory, this culminated in the setting up of the Archaeological Survey of India and the Department of Archaeology, without which the study of Indian architectural history would indeed be severely handicapped.

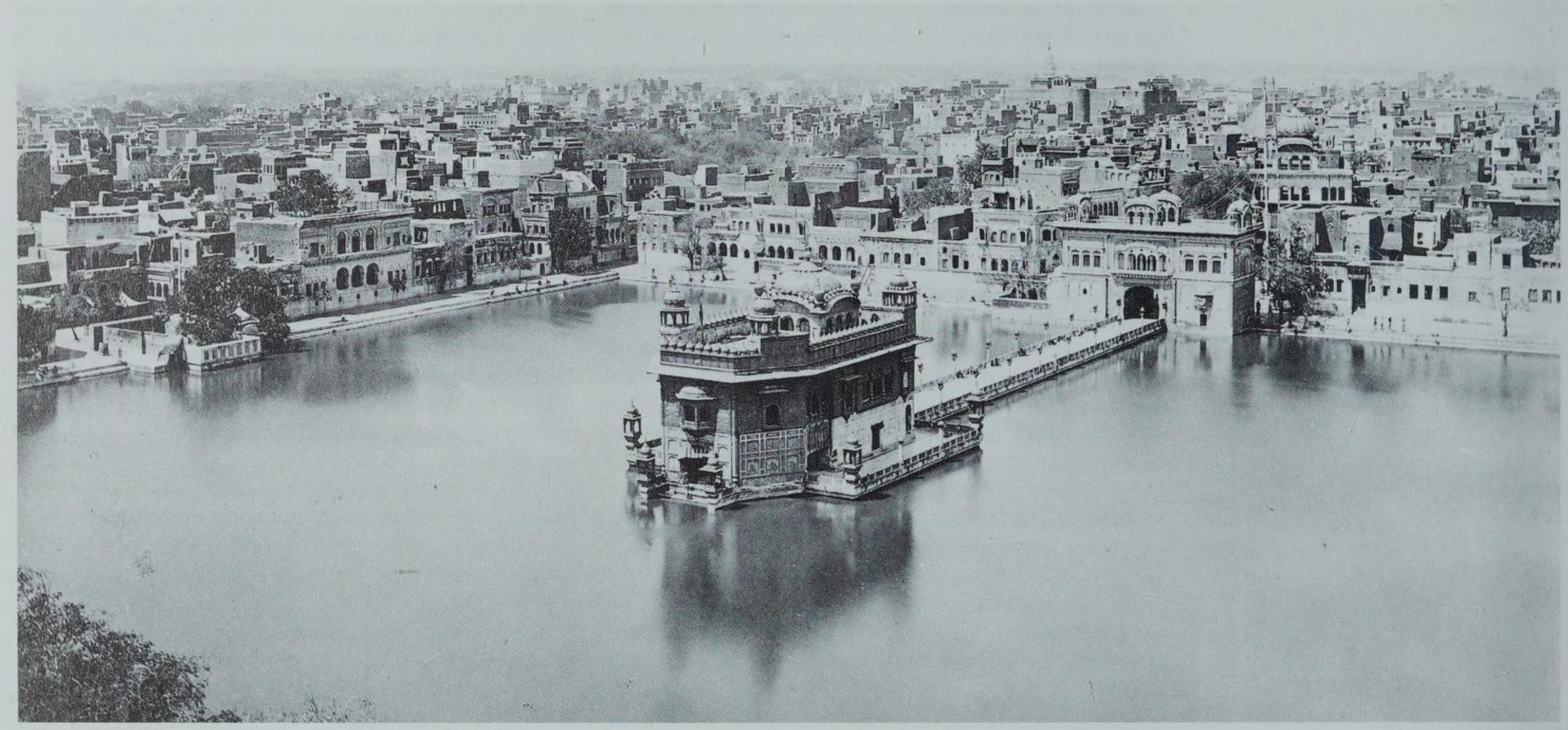
Princely Building

During the period of Mughal dominion client princes, often attendant at the imperial court for lengthy periods as we have seen, enlarged their seats in a manner befitting the new dignity bestowed upon them by the emperor. During the period of Mughal decline, especially after the Rajputs, the Maratha factions and Muslim magnates re-asserted or established their independence, there was a plethora of new palace building. The nobles who remained in the imperial *entourage* built vast, if ephemeral, palaces too but the later-18th century emperors made do with the legacy of their great predecessors – except for embellishments to their gardens and the laying out of the extensive Qadsiya Bagh in Delhi. Their flagging mosque building efforts are well enough represented by the Sonehri Masjids in Shahjahanabad and Lahore, but independent Muslim rulers like the Nizam of Hyderabad, the Sultan of Mysore, the Nawabs of Bhopal and Oudh endowed their capitals and dynasties with lavish mosques and mausoleums – though none surpassed Safdar Jang in this last respect.

Hindu princes, who had learned from the Muslims to erect monuments to the dead, constructed increasingly elaborate cenotaphs – *chattris*, and even imitation temples, to enshrine engraved stele marking the place of cremation. They spent lavishly, too, to augment the depleted stock of temples, relying still on recensions of the ancient treatises for reproductions whose comprehension of the Purusha gave way to the celebration of mysticism. This was especially so with the Krishna cults which, since works like the Orchha Chaturbhuja, had prompted the uncharacteristically large



299. Mandore: *devals* of the Maharajas of Jodhpur.



300. Amritsar: Golden Temple.

halls of complexes such as the Jagat Shiromani at Amber, the Govind Deo and Madan Mohan at Brindaban, the Keshava at Mathura and the Vishveshvara at Varanesi.[3]

The Sikhs, for their part, pillaged Mughal monuments to embellish their sanctuaries (*gurdwaras*) in the Punjab. The typical *gurdwara* is a two- or three-storey cubical reliquary enshrining a holy text or the remains of a *guru*. Over the central room containing the reliquary or sacred object, a dome usually emerges from a fringe of pinnacles and *chattris* and the whole is reflected in a pool occupying much of the precinct. Their principal shrine is the marble-clad, copper-domed Golden Temple of Amritsar, containing the Akal Takht seat of authority in the faith and enshrining the Grant Sahib, the holy book bequeathed as ultimate authority by the last of the *gurus*, Govind Singh. The temple was built by *gurus* Ram Das and Arjan Dev in the last quarter of the 16th century but, sacked by Ahmad Shah Abdali, it was rebuilt from 1764 and embellished with marble and gold by Ranjit Singh in the early-19th century.

Into the service of this wide range of building types was pressed the inflated, convoluted, hybrid style represented by the late religious and secular essays of the Mughals, which was drawn from the cross- fertilization of the indigenous and imported traditions. Native and Muslim builders alike, working primarily in plaster or wood, shared the imperial court's general inclination towards Gujarati floridity and specific appreciation of the decorative value of Bengali and Deccani forms. Persian motifs were given a conspicuous role in delicate inlay work of ivory and mirror or elegantly moulded stucco. Cusped arches, the *bangaldar* and ribbed domes with *padma-kosha* were predominant but the post, bracket and beam, *chadya*, *chattri*, balcony and screen all played their part – and all were assembled with increasingly flagrant opulence as the 18th century progressed. And at the turn of the century the most ubiquitous style from Bikaner to Bangalore was one of exaggerated floridity: repetition and inversion of forms, with pronounced accenting to produce syncopated rhythms; a preference for the centralized in plan and elevation, the *bangaldar's* corners brought down beyond the semi-circular, the cupolas virtually spherical; the architectonic ceding to the vegetal – as it had done in Rococo Europe – until columns became baluster-like bundles of reeds and arches were overcome by creeper-like cusps.

47
304

Most spectacular by far are the palaces of the Rajputs. Usually constrained by existing fortifications from reproducing the formal qualities of Orchha and Datia – or the *prasada* prototype – they achieve instead a picturesque contrast between the exigencies of defence and the excesses of retreat. Apart from fortifications incorporating all the sophistications produced by the stormy past, most of the earliest work was obliterated in 17th- or 18th-century building campaigns. Such 16th-century work as does survive, for

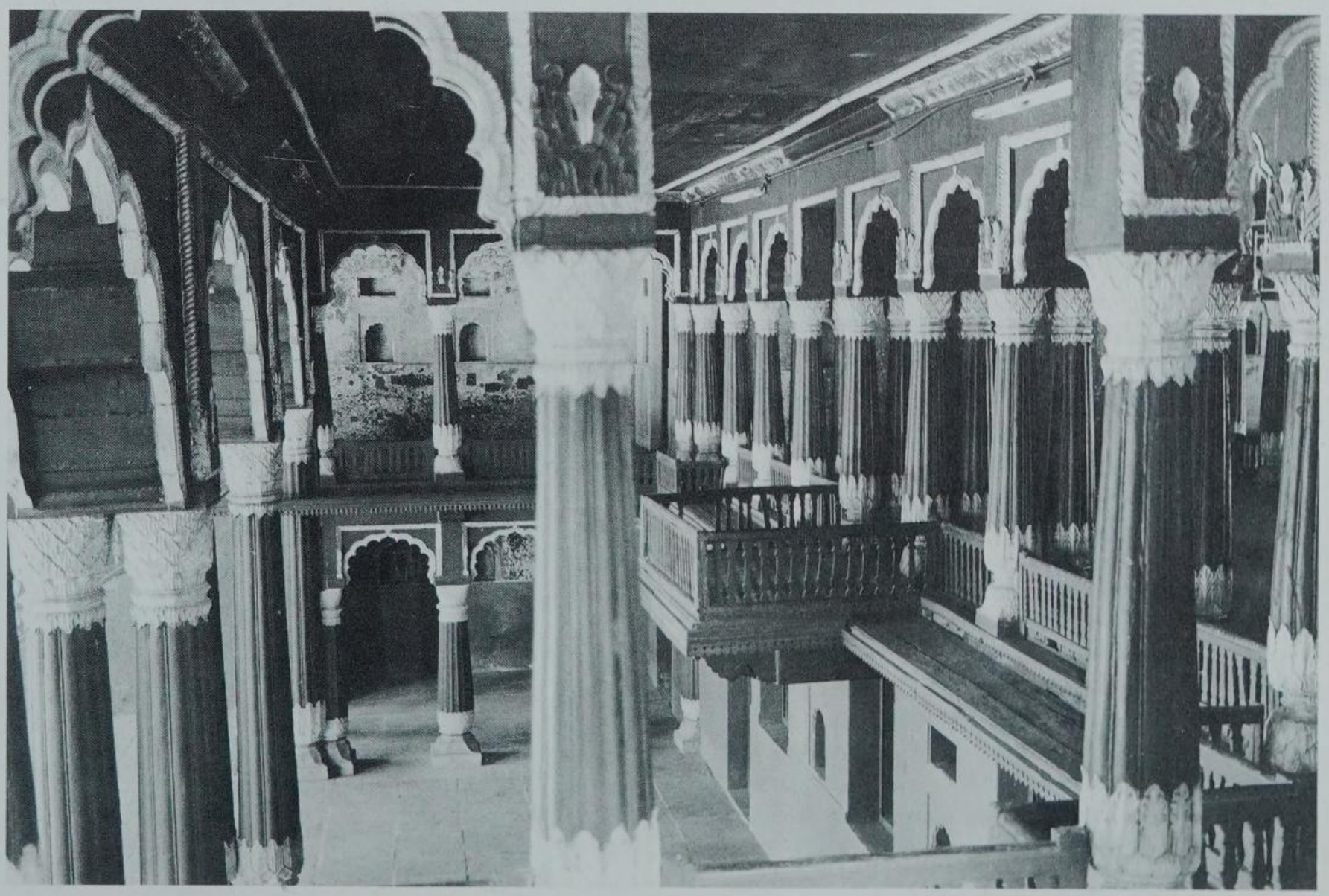
263

instance at Udaipur as we have seen, or the nucleus of the fort at Bundi or the seven-storey Juna Mahal at Dungarpur, is generally comparable with the *prasada*-like element which we were able to distinguish from the mass of Kumbha's palace at Chittor. And, again as we have noted, the Kachchhwaha Raja Man Singh began his palace at Amber in the 1590s with a regular rectangular court surrounded by superimposed apartments and towers which recalled something of earliest Orchha.

Those early Rajput palaces, if complex, were compact and it does not seem that time and change alone have left an unclear distinction between the ruler's personal quarters and those of his women.[4] By the end of the 17th century, however, perhaps due to long familiarity with the grand scale of the imperial court, certainly in conscious rivalry with one another as prodigal builders, most Rajput rulers had extended their establishments to provide the canonical list of facilities transmitted by the *shastras*. At least three zones were varied in their differentiation but invariably still knit together by a warren-like network of easily defensible companion-ways, corridors and galleries. An outer service court with stables and kitchens, granary, armoury and temple, led to the principal court of public audience with a grand *durbar* hall. The ruler's personal apartments, with a hall for private audience, treasury, perhaps a private palatine shrine, and sumptuous pavilions of retreat, preceded the sealed *rawala* of myriad small chambers, screened courts and roof terraces – sometimes with gardens. 278; 45(b)

As we have seen, the cross-cultural influence which flowed freely between the Mughal court and those of the Rajputs enriched both the indigenous and imported traditions, but in the garden the contribution of the Mughals was crucial. They delighted in decorations based on the refined stylization of nature in hunting or garden scenes – and in the garden itself, disposed geometrically with watercourses and fountains after the image of Paradise. Before them there was scarcely any indigenous tradition of formal gardening in India and the Rajput school of painting had been devoted to full-blooded Krishna Lila scenes. In this respect, at least, the Jahangiri Mahal at Orchha marks a new development in the Rajput approach.

Imperial pretension affected not only the great Rajput chiefs like the Kachchhwahas of Amber or the Rathors of Jodhpur and Bikaner, who enrolled themselves amongst the Mughals' staunchest supporters, but also independent-minded magnates like the Sisodias of Udaipur. There is room here for us to do little more than take theirs as representative of the prodigious Rajput activity.



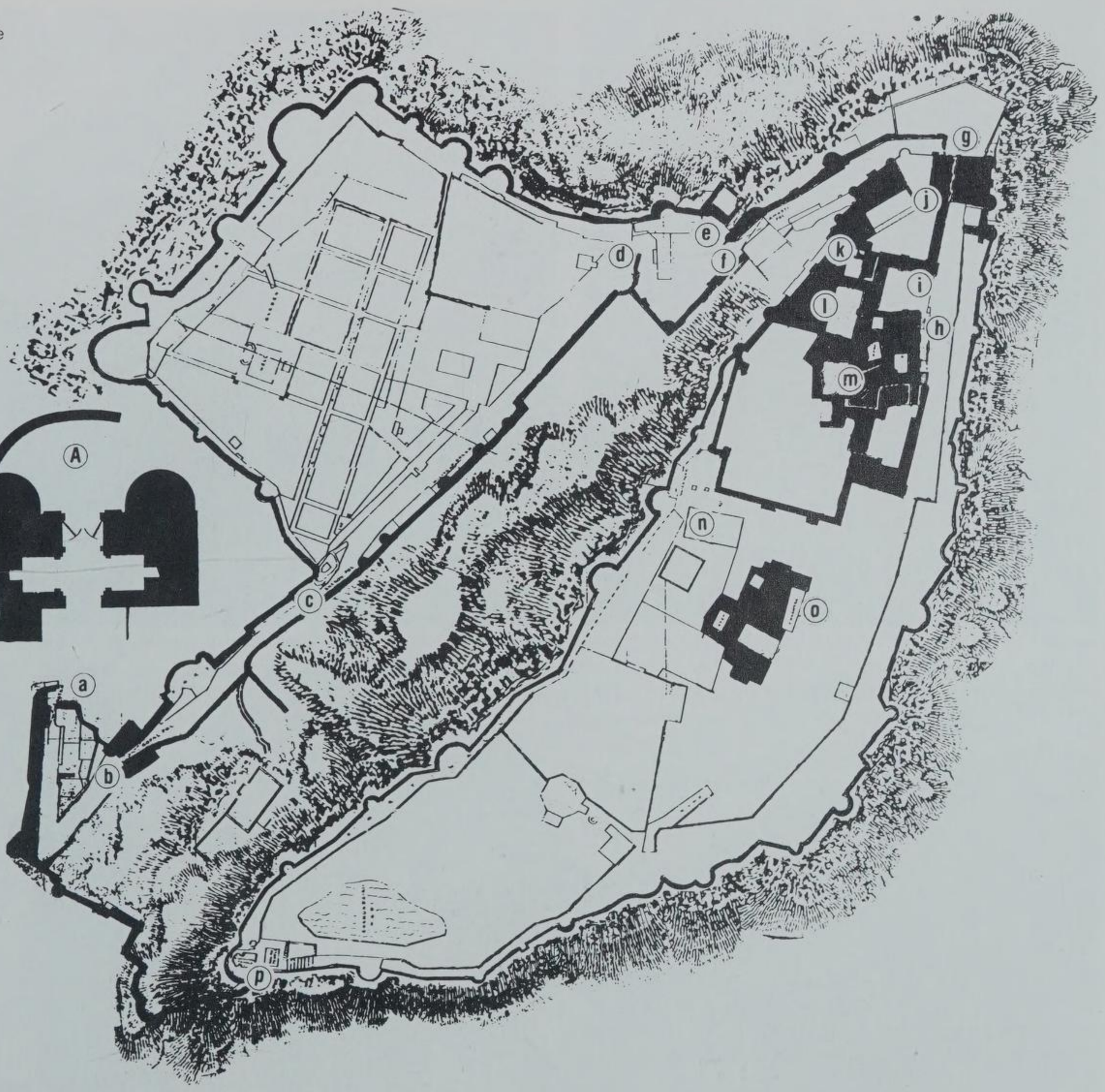
301. Bangalore, palace of Tipu Sultan: audience hall.

302. Udaipur, City Palace: **(a)** from north withTripolia Gate foreground, Badi Mahal centre and Badal Mahal left background; **(b)** Badi Mahal roof garden.

302 (a)

An initial building campaign begun after the Sisodias made their peace with the Muslims, and presumably extending well into the 17th century, developed the ruler's apartments by adding rooms and courts over the buildings of Udai Singh. The Dilkhush and Chandra Mahals were built over the treasury and temple to either side of the Raja Angan Chowk, forming *prasada*-like towers as at Chittor. Then Mor Chowk was formed on the roof terrace of the original audience hall beside the Toran Pol and adjacent armoury, with the Surya and Manak Mahals to its north and south. Amar Singh II (1698–1710) clad the hillock to the north of the complex and laid out the Badi Mahal garden court on its top as a dependency of the Dilkhush and Chandra Mahals. Over the Surya and Manak Mahals, his successors added the Priyatam Niwas, Nila and Mothi Mahals and, in turn, the Badi Chatur Chowk over them. These were extensions to the *rawala* so that the women of the court, their seclusion preserved, could witness the proceedings in Mor Chowk below. Most of these rooms and courts were altered, or at least redecorated, in the debased styles of the late-18th century and later, Mor
47(b) Chowk receiving its notorious revetment of coloured glass peacocks in the mid-19th century. However, the surviving cusped arcading suggests that the Chandra Mahal and its

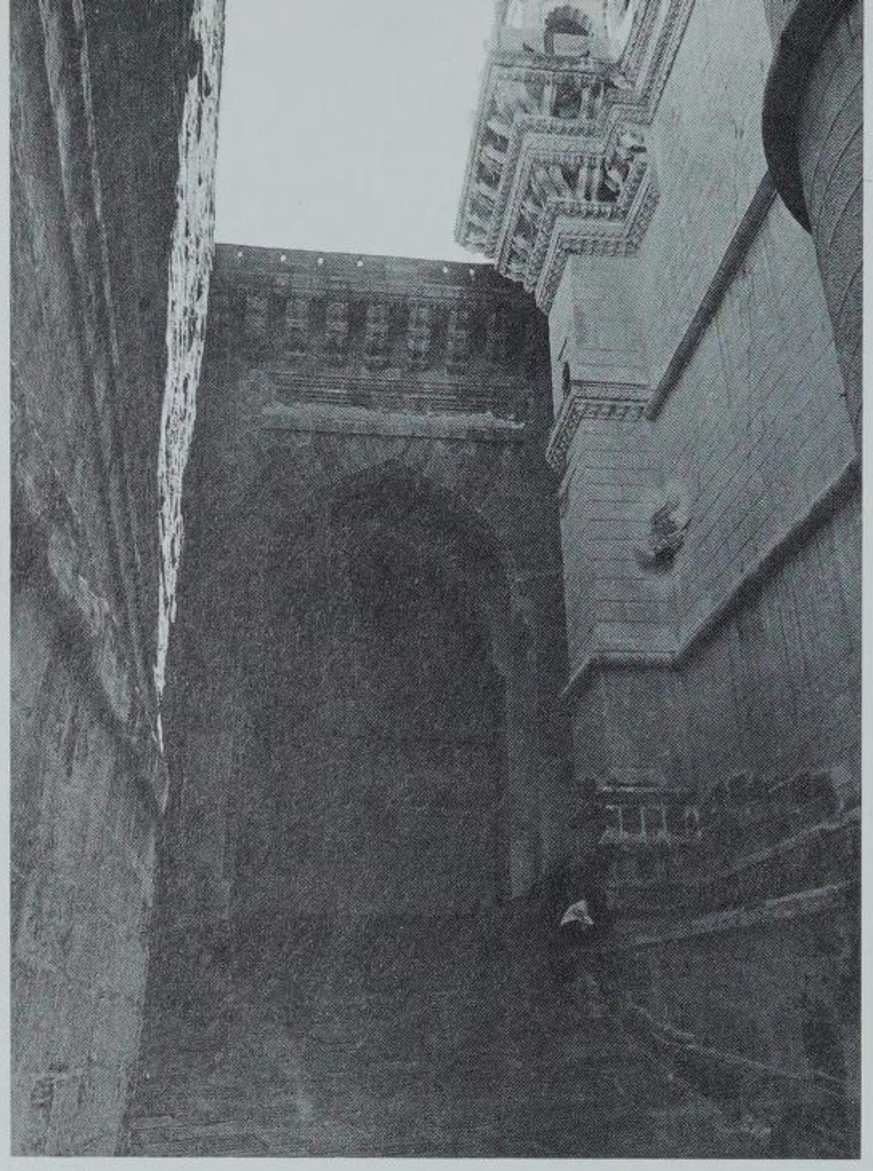
302 (b)



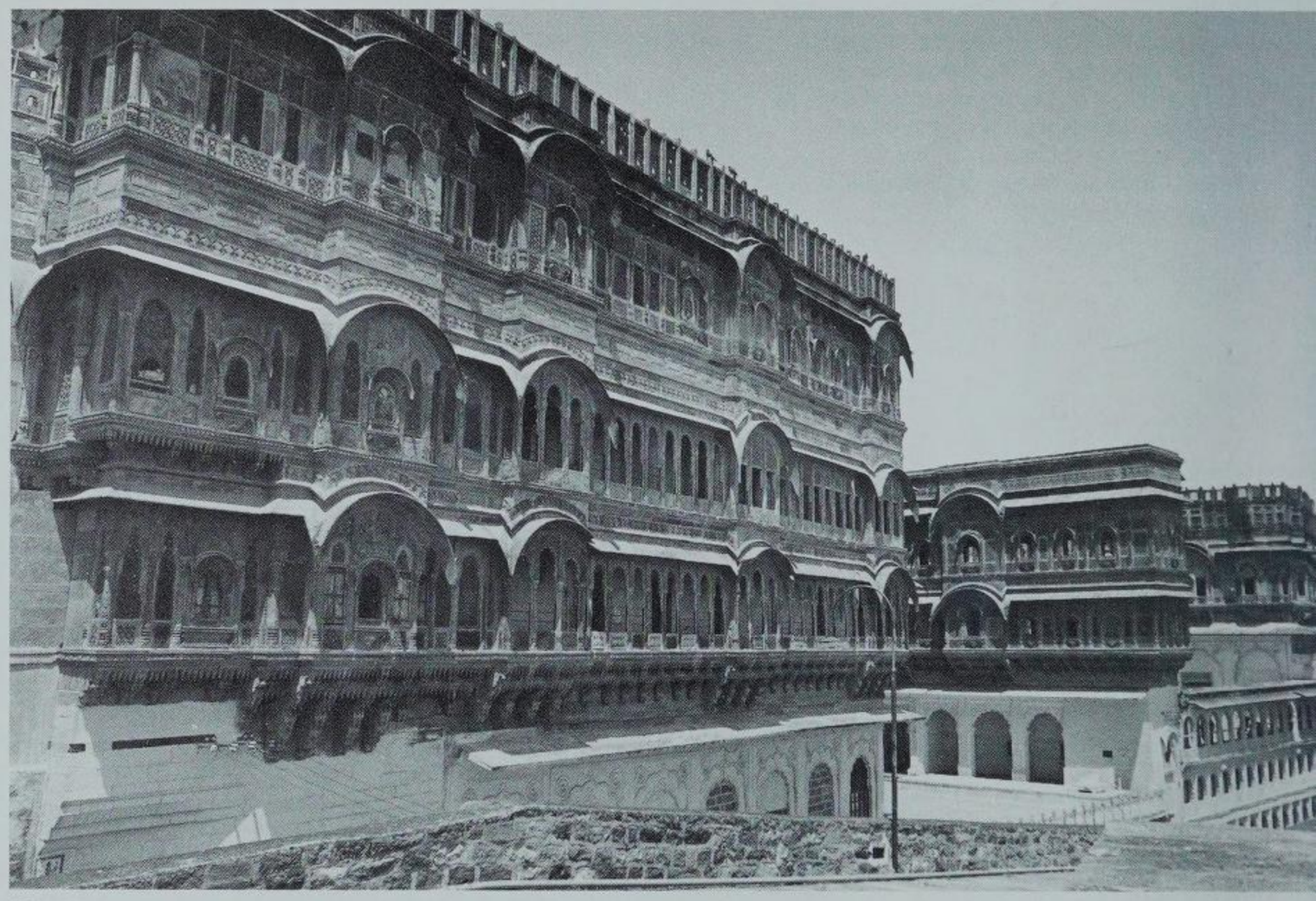
303. Jodhpur Fort, plan (1:2500): **(a and inset A)** Fateh Pol; **(b–f)** intermediate gates; **(g)** Loha Pol; **(h)** Suraj Pol; **(i)** Singar Choki Chowk; **(j)** Daulat Khana Chowk and Phul Mahal; **(k)** Khabka Mahal and Chowk; **(l)** Mothi Mahal and Chowk; **(m)** *rawala*; **(n)** Murli Manoharji Temple; **(o)** Selim Kot; **(p)** Ankaranji Temple.

contemporary works were amongst the earliest manifestations of the style fashionable at the court of Shah Jahan. Nearly a century later, courtiers real and painted enjoyed the shade of real and painted trees and the similar, if more exquisitely refined, arcading of the cloisters of the Badi Mahal.[5]

For extreme opulence in red and gold, mirror and glass, 47(a) the *diwan-i-khas* of Raja Surat Singh (1787–1828) at Bikaner has rarely been excelled. At Bikaner too the charming Chattra Nivas *hawa-mahal* of Dungar Singh (1828–87), with its tent-canopy ceiling and revetment of English blue and white porcelain, well represents the naive, if ironic – and certainly not unique – lapse of the Rajasthani imagination into the exotic world of the mechanical and mass-produced. The combination of stout traditional defences and Rajput palace building at its most convoluted, is nowhere better represented than by the old fort of Jodhpur. Its eminence commands a 20(a) view of the surrounding desert for miles, denying any possibility of surprise to an advancing enemy and the walls



304 (a)



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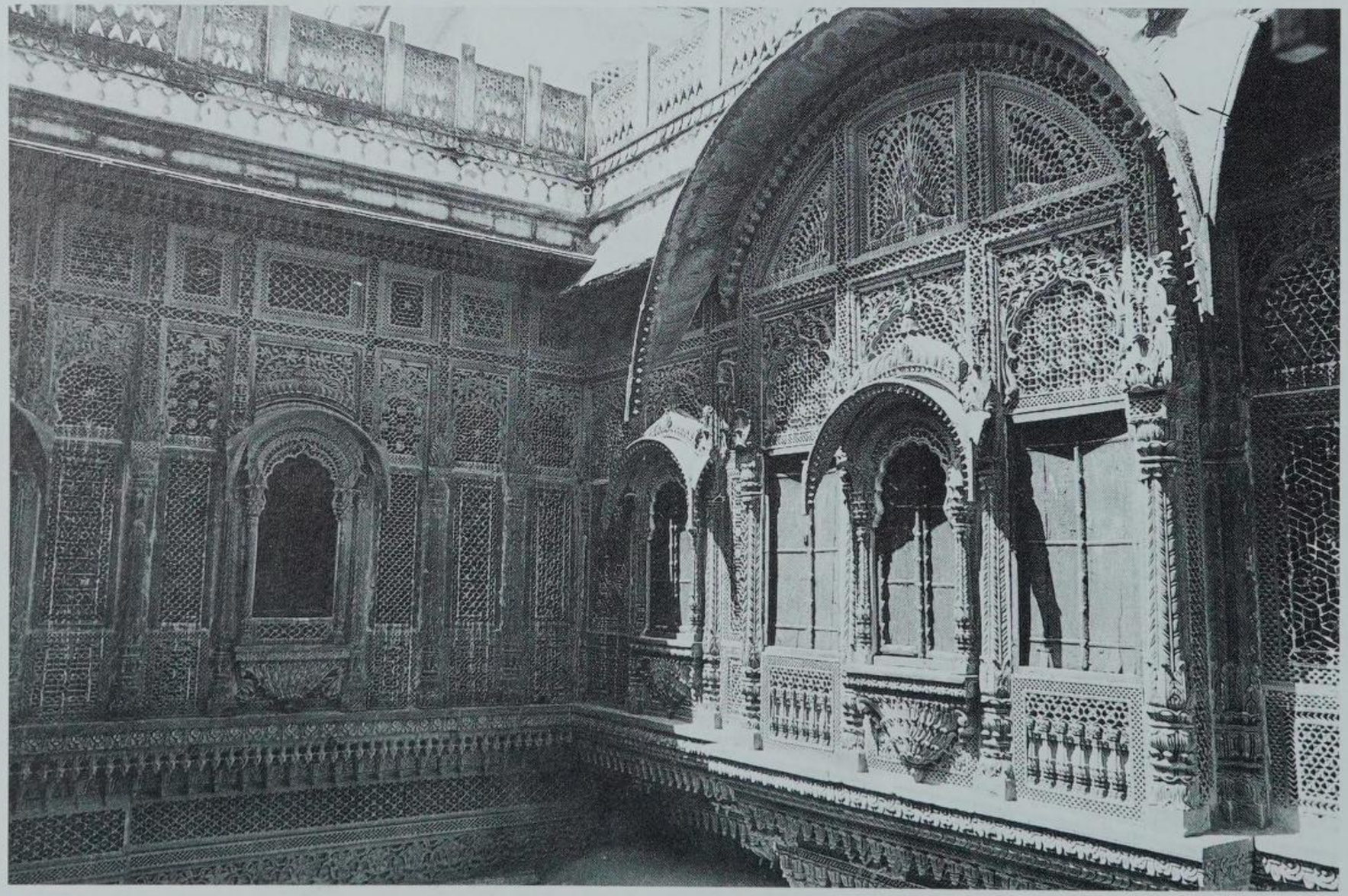


304 (c)

304. Jodhpur Fort: **(a)** Loha Pol; **(b)** from *rawala* to Jhanki and Phul Mahals; **(c)** Khabka Mahal Chowk.

rising from the rocky face were unassailable. The approach climbs steeply from the south, roughly parallel to the west flank, bends round the northern tip and then returns along the east side. It is guarded by seven gates. The Fateh Gate at the bottom, between twin bastions, is protected by a curved barbican and structures within force passage through a forty-five degree turn left. The sixth gate, Loha Pol, controls the final turn from the service zone around the northern end before the passage along the east range. The seventh gate, Suraj Pol, leads sideways from this passage to the *durbar* court, Singar Choki Chowk with the ruler's marble throne platform.

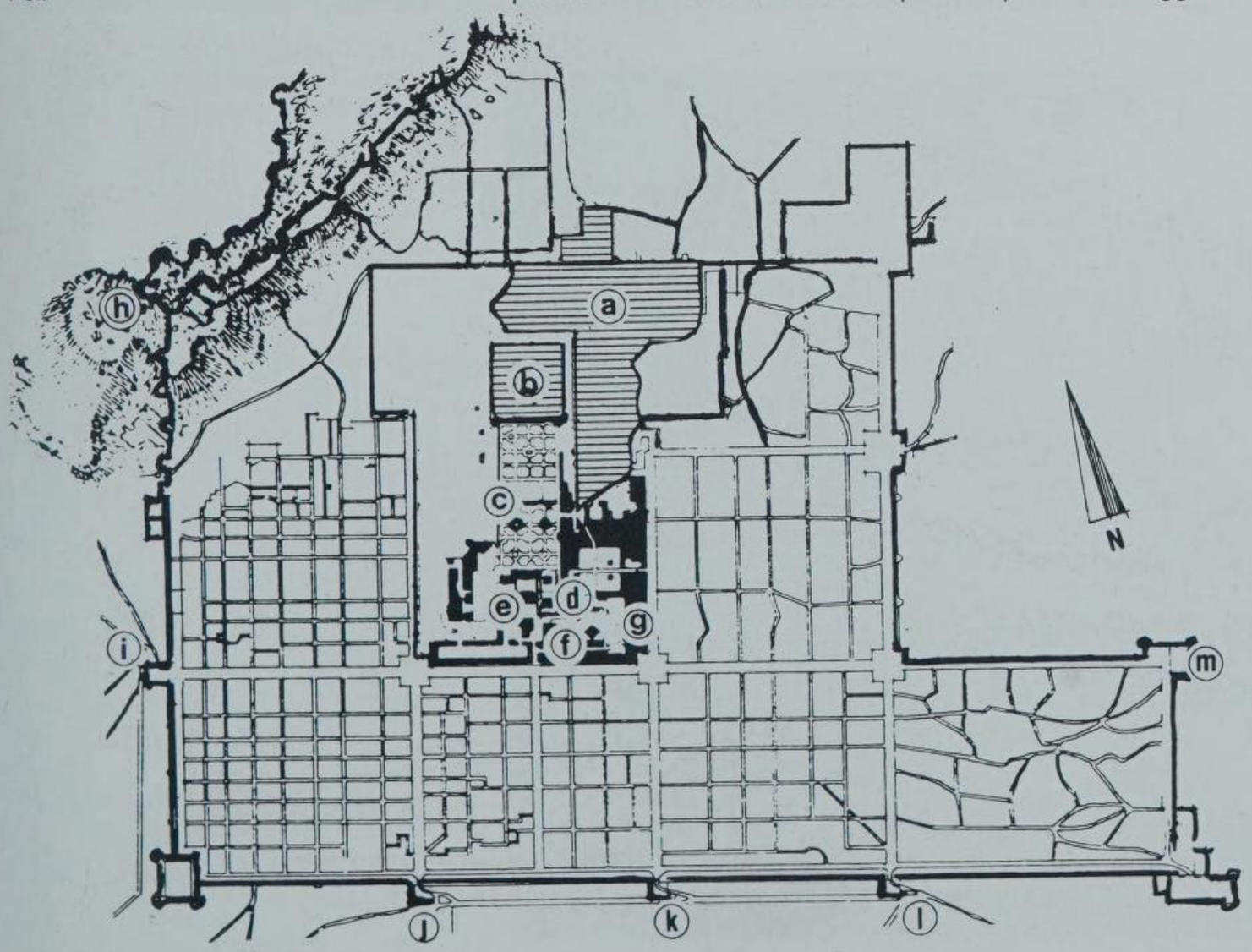
The Jhanki and Mothi Mahals which flank the *durbar* court were probably originally built under Jaswant Singh (1638–78) but much restored after the depredations of occupation under Aurangzeb – though the interior Khabka and Mothi Mahal Chowks, like the still more remote old *rawala* range to the south, may have sustained only superficial damage. On all sides these ranges are hung with galleries and extravagant *bangaldar* balconies carried on extremely rich corbels and screened with a profusion of *jalis*, dazzling in their intricacy. They provide an outer skin – a sort of *brise soleil* – which keeps the living space within agreeably detached from the rigours of the desert climate. On the ground floor of the Mothi Mahal, to the west of its *chowk*, is a magnificent hall of audience. Its size suggests it was the *diwan-i-am* but its position at the heart of the ruler's private apartments suggests that it was the *diwan-i-khas* – though the lack of clear distinction between public and private zones is not untypical of the early Rajput palace, as we have seen. Its decoration too, certainly the splendid mirror-inlaid ceiling, recalls the *khas-mahals* of Shah Jahan rather than an imperial *diwan-i-am*. A new *diwan-i-khas* was installed in the Phul Mahal, north of the Daulat Khana Chowk at the northernmost point of the complex, by Abhai Singh (1724–49). Many of the smaller rooms in the warrens of *daulat khana* ranges were decorated or redecorated in the tawdry style of the 19th century. The *shish-mahal*, however, retains an earlier scheme of Krishna Lilas with coloured glass and mirror mosaic bordering mirrors in relatively large, rectangular panels. Quite different from the Safavid-inspired *shish-mahals* of Agra or Amber, this probably dates from the reign of Abhai Singh. The same ruler created another delightful little fantasy, the model *prasada* at Mandore called Ek-thamba Mahal.[6] *46(b)* *46(c)*

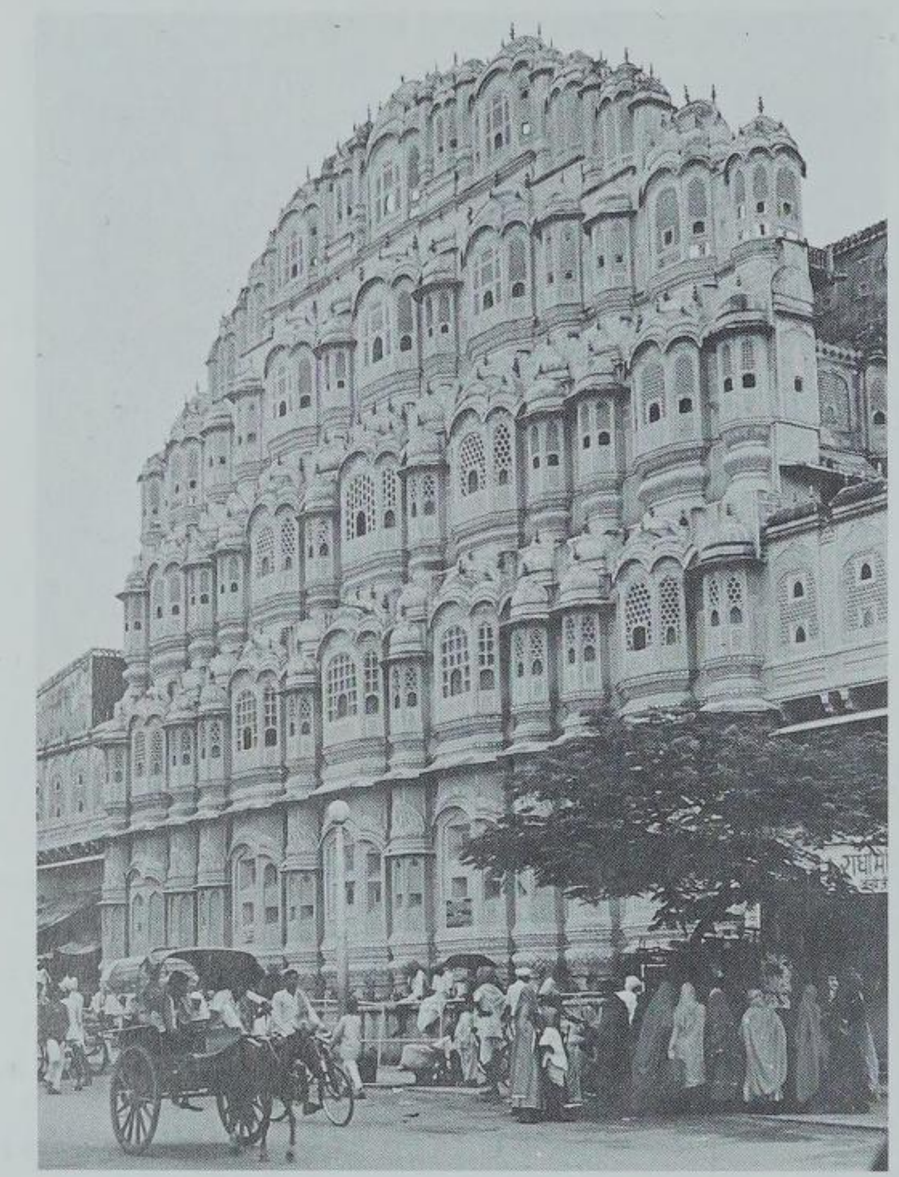
A power in the land after the death of the emperor Bahadur Shah, Maharaja Jai Singh II of Amber felt confident enough to descend from his ancestral fort to a modern capital in the plain – a veritable metropolitan fort in the Kautilyan sense. Like Kautilya's ideal towns too, Jaipur is regularly planned. Initially it was to accord with the nine-square diagram of the elementary *shastra* prescriptions for the laying-out of a sacred site. However, the plan had to be adjusted by deflecting the orientation from true north, to incorporate an existing garden palace at the ruler's direction, and by displacing the north-west zone to integrate the defences with the hills there. These stretched back to Jaigarh and Amber and Nahargarh fort was built at their head, above the new town.[7]

Within the walls, the original garden palace was developed into the very model of a Kautilyan complex – with outer courts culminating in a great *raja-bhavana* and the inner private precincts of the *raja-nivesana* and its towering *prasada*. The *rawala* is located on the upper floors of this seven-storey structure, the Chandra Mahal, but the women of the court were given their own *prasada* in 1799. This, the Hawa Mahal of Maharaja Pratap Singh, is distinguishable from the ancient prototype only through its veil of infinitely repeated *bangaldars* which – not inappropriately in this case – denies substance to the structure. Most of the rest of the complex has something of the dryness of an academic exercise, despite its prettification in pink with pseudo-architectonic articulation etched in white. Quite the most vigorous formal element of the entire site, however, is the fantastic agglomeration of sun dials in Jai Singh's observatory, the Jantar Mantar. *45(b)* *8(a)* *45(a)*

Aping the palaces of the rulers in elaboration of detail, at least, the private houses (*havelis*) of the rich are particularly notable for their intricate woodwork – some strikingly reminiscent of the oldest images of the *prasada*. There are many splendid examples in Jaipur, in Gwalior's Lashkari, indeed in all the prosperous cities of the Rajputs, but

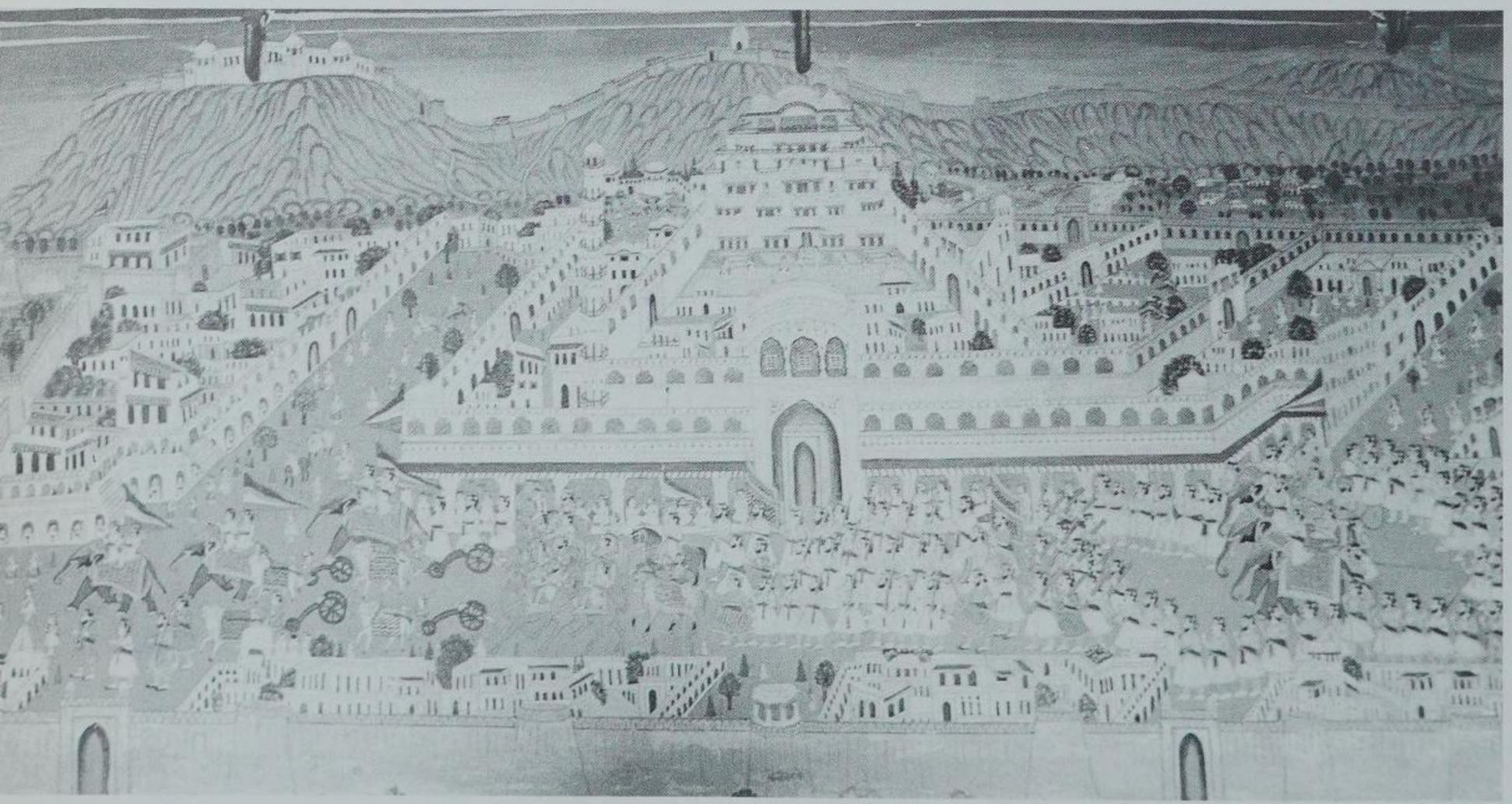
305. Jaipur, city plan (1:30000): **(a)** lake; **(b)** Tal Katora; **(c)** garden; **(d)** former *diwan-i-am*; **(e)** Priyatam Niwas Chowk with Chandra Mahal north and Anand Mahal south; **(f)** Jantar Mantar; **(g)** Hawa Mahal; **(h)** Nahagarh; **(i)** Chand Pol; **(j)** Ajmer Gate; **(k)** Sanganeri Gate; **(l)** Ghat Gate; **(m)** Suraj Pol.





306 (a)

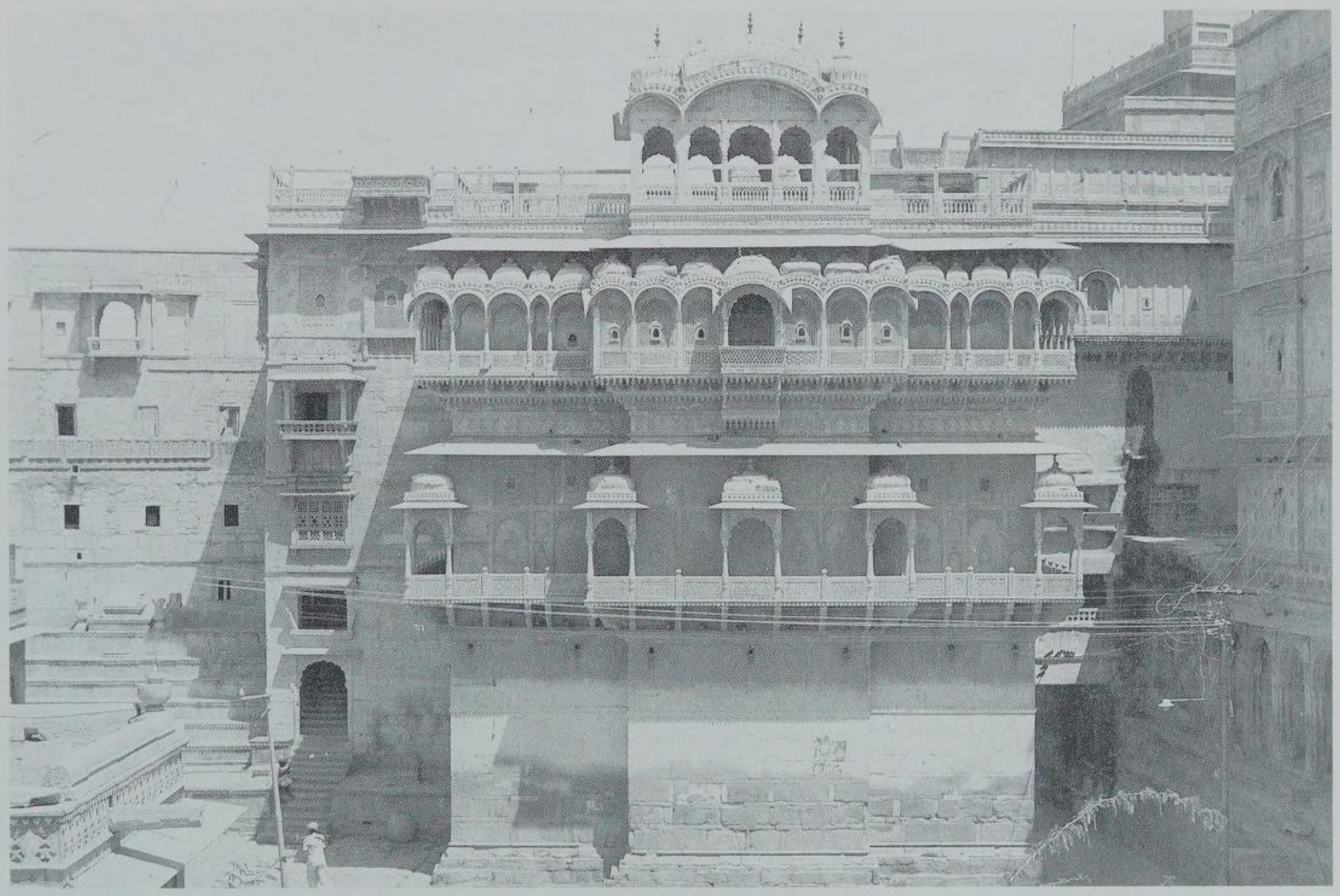
306 (b)



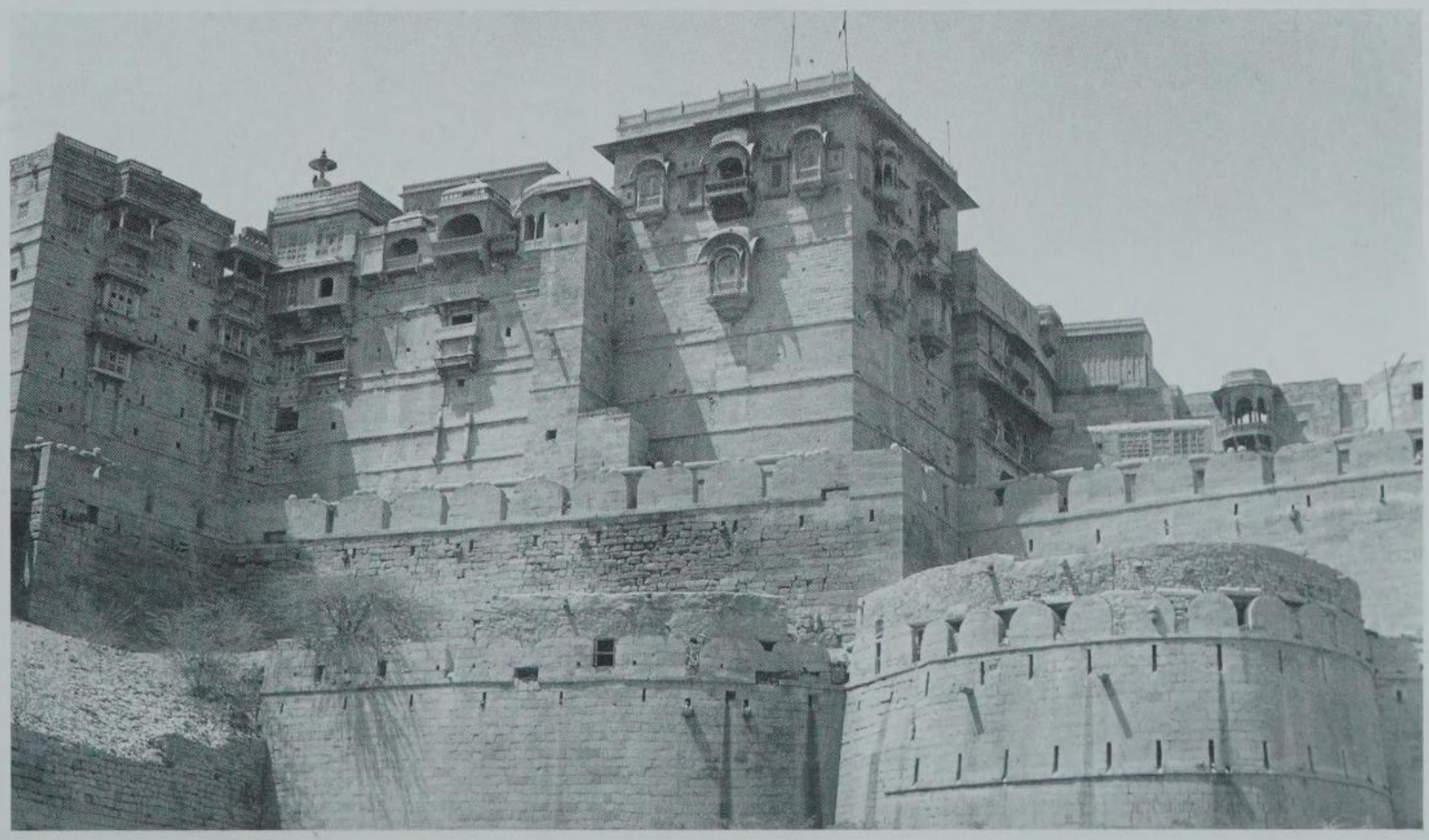
306 (c)

306. Jaipur, City Palace: **(a)** Hawa Mahal; **(b)** Chandra Mahal; **(c)** fresco from Jaisalmer palace.

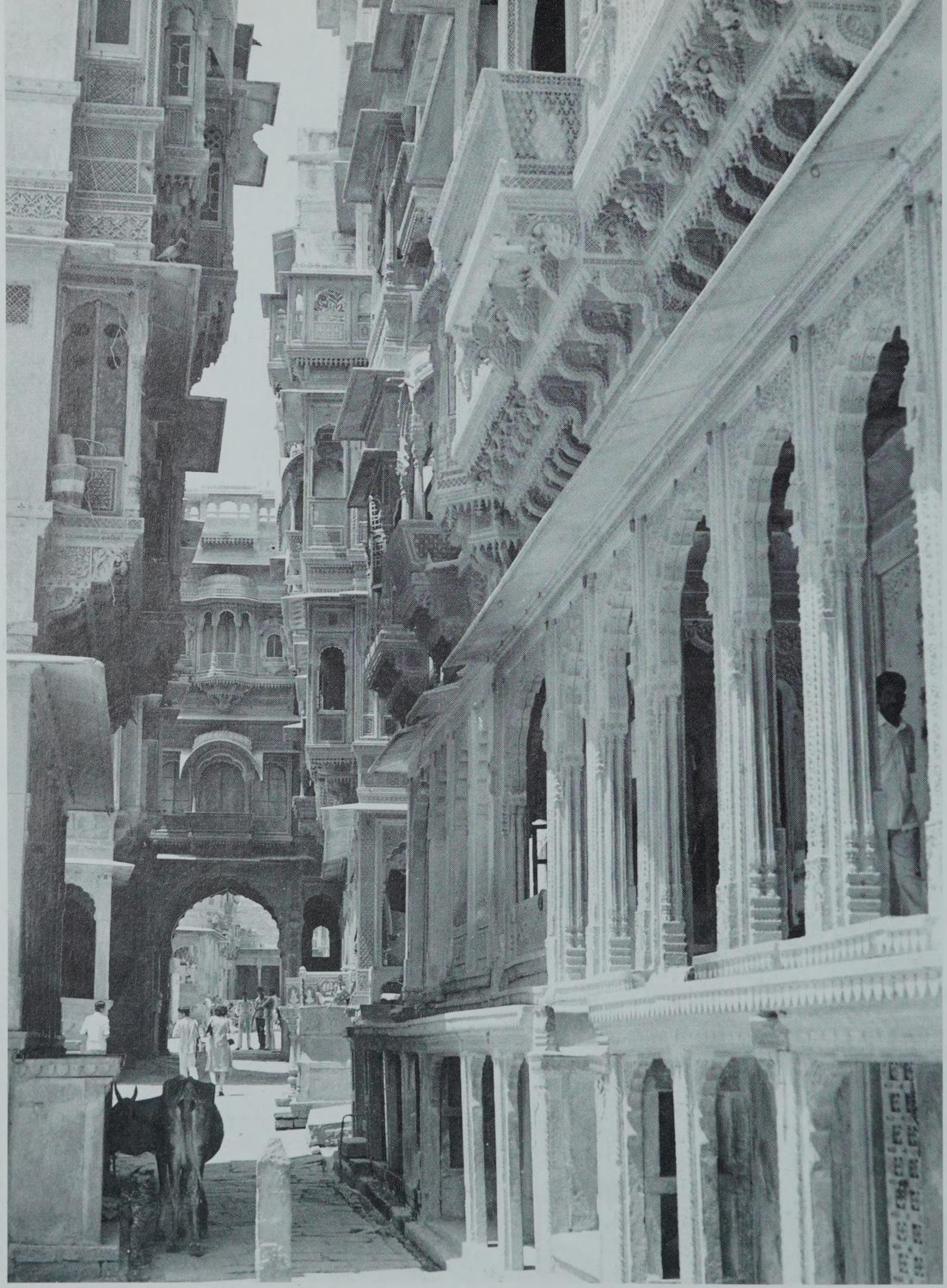
307. Jaisalmer: **(a–b)** fort palace from Suraj Pol and Gaj Vilas (c.1830); **(overleaf) (c)** Patua Haveli; **(d)** Haveli of Diwan Singh.



307 (a)



307 (b)

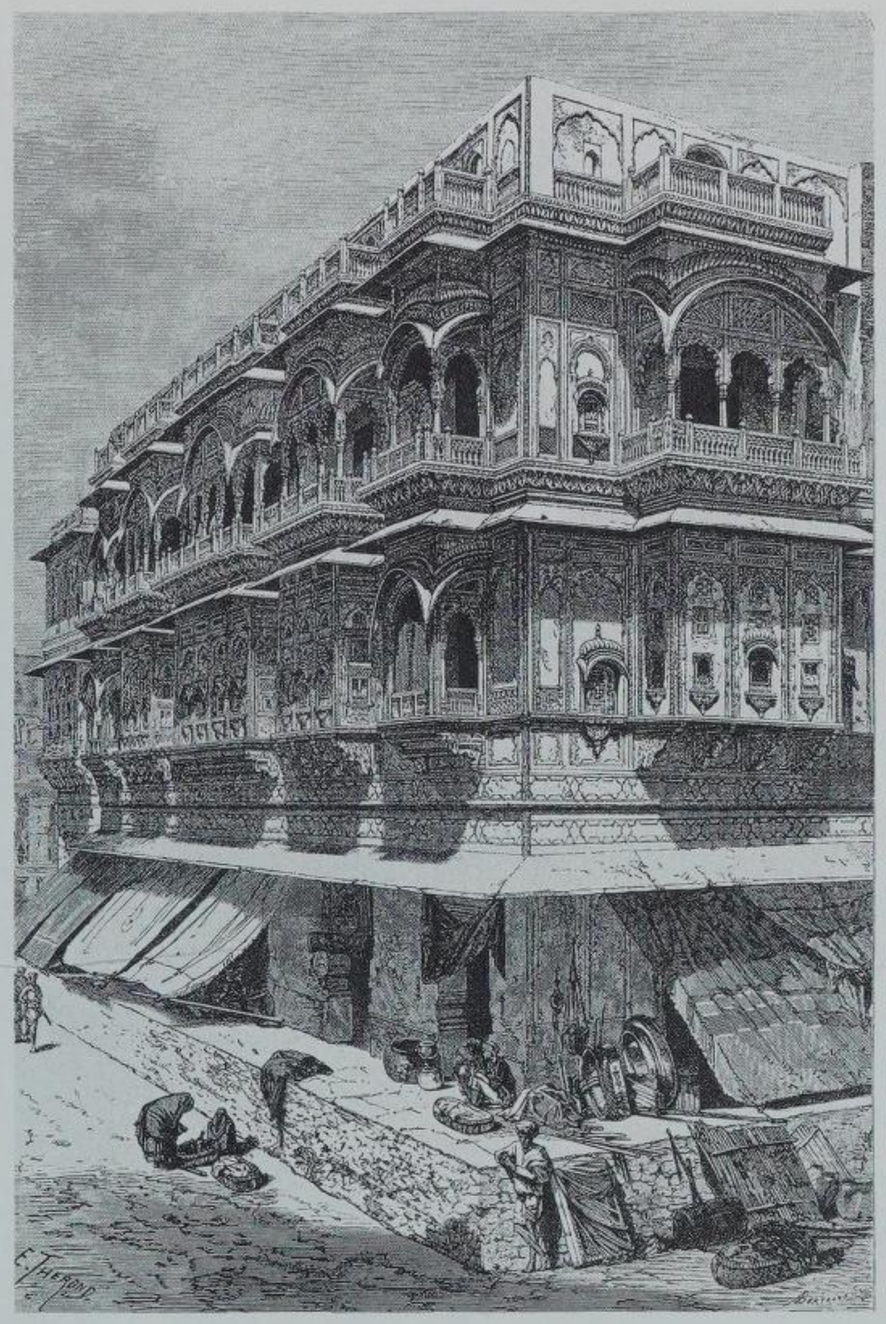


307 (c)

307 (d)

308. Gwalior, Lashkari: *haveli.*

309. Madurai, palace of Tirumalai Nayak: **(a)** *durbar* vestibule; **(b)** entrance court.



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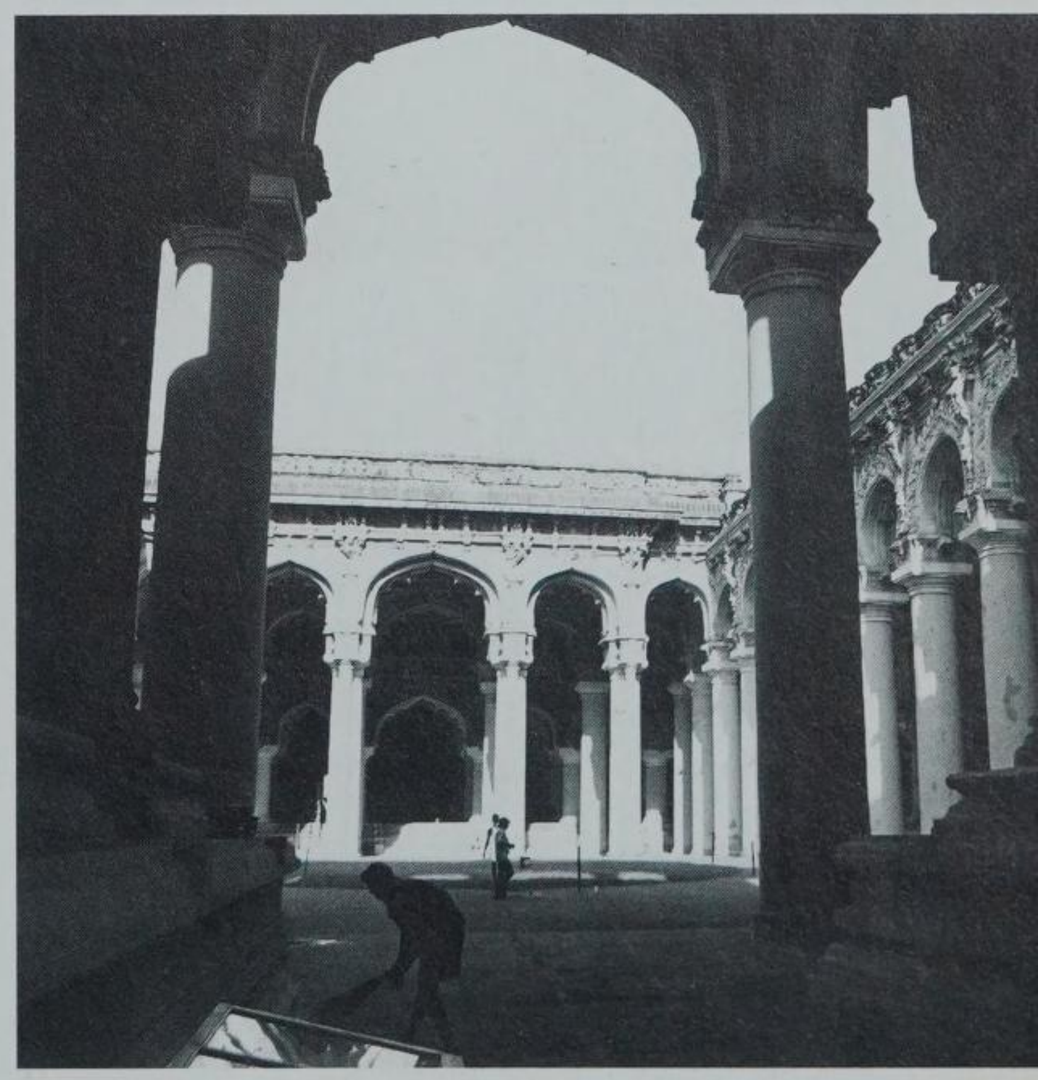
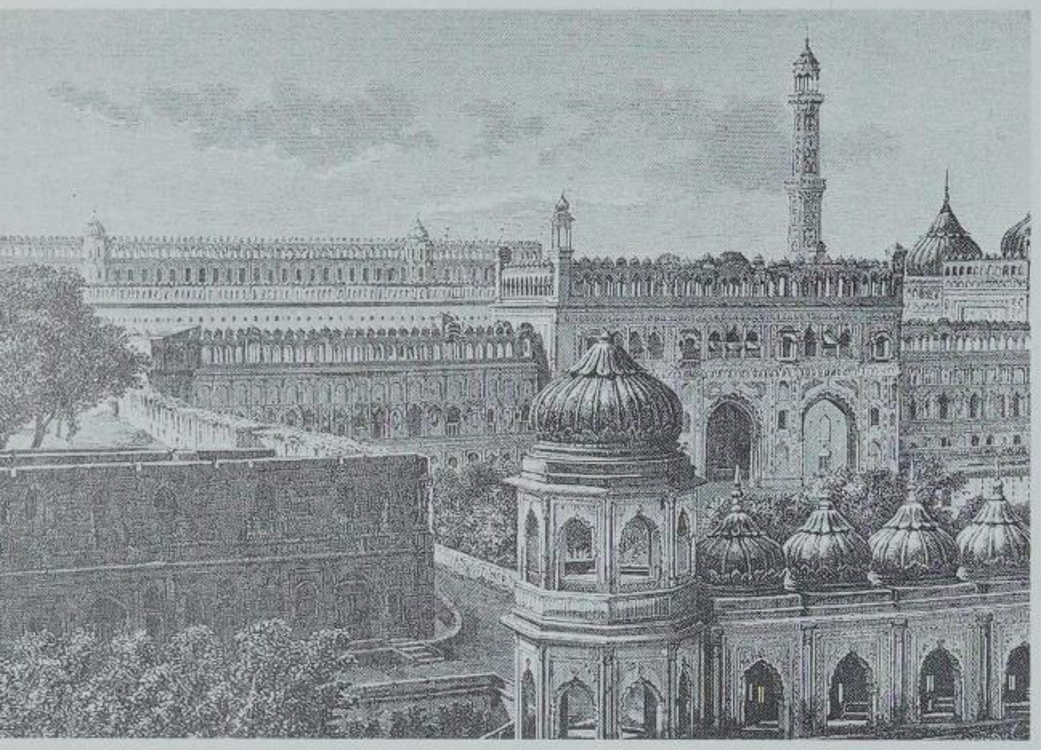
309 (a)



309 (b)

18 unsurpassed are those of Jaisalmer. At Jaisalmer the fashionable court style of Mughal and Rajput was perhaps first accepted by Rawal Amar Singh (1661–1702) for the palaces, temples, *chattris* and gardens surrounding the Amar Sagar and at the Bada Bagh cremation site. Under his later-18th and 19th-century successors, the late architecture of Marwar, with its prominent oriels and balconies, many-cusped arches, half-circular roofs and luxuriant sculptural ornament, was also imported. The palaces in the fort mark the progression towards floridity but the royal residences are not Jaisalmer's most celebrated buildings. In the eclipse of royal power by the merchants promoted into the position of hereditary prime minister, these are the *havelis* of the extended families of the city's opulent oligarchs.[8]

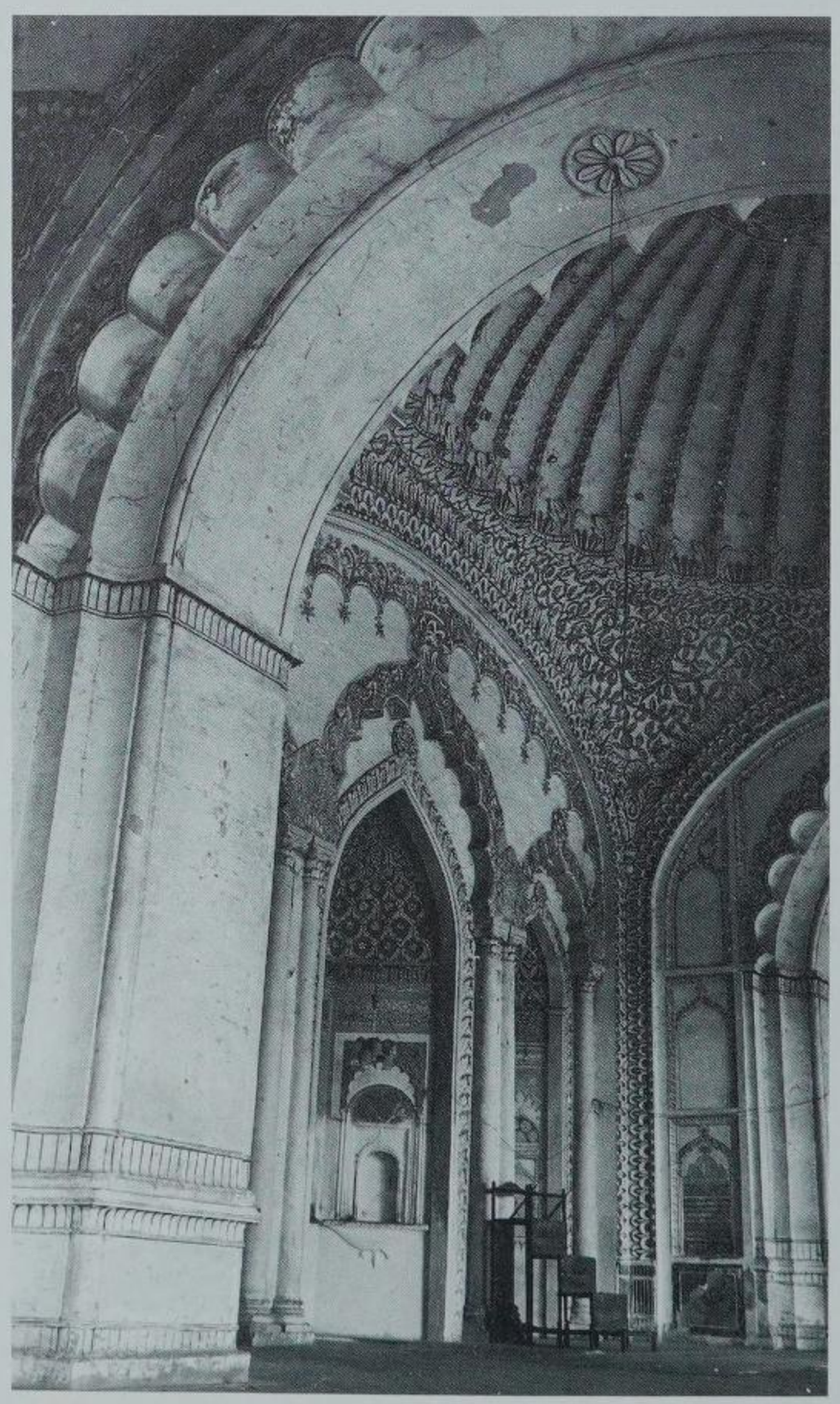
In the early surviving mansions of Jaisalmer, the ground floor often has no more than a heavy panelled door and the upper ones broad balconies, carried on elaborate brackets, between two screened bays, with some sort of terrace above. The most characteristic feature is the extremely fine *jali*-work in the ubiquitous gold sandstone, occasionally embossed with heraldic beasts or lotus medallions. As



310 (a)

310 (b)

311 (a)



311 (b)

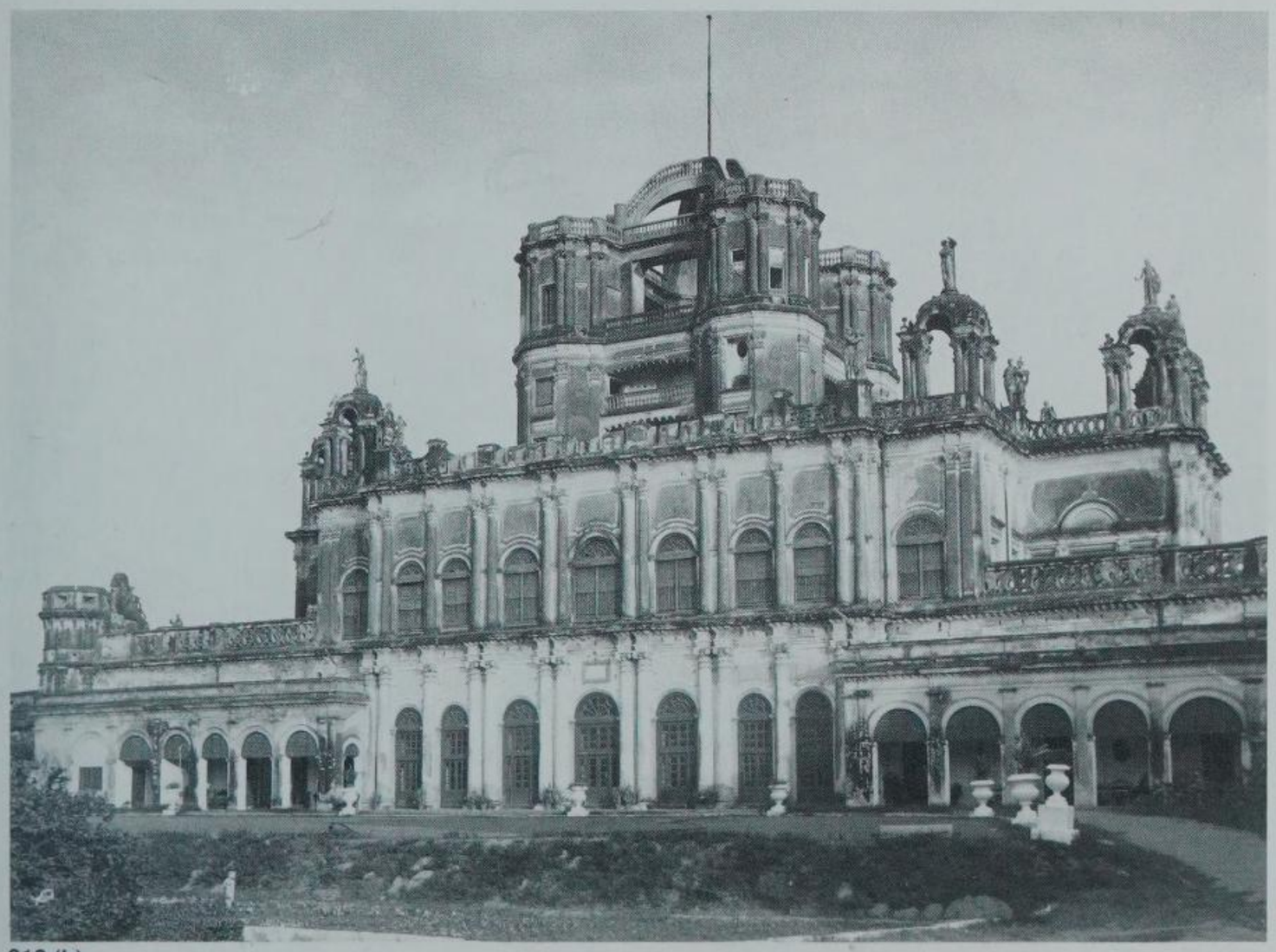
310. Lucknow, Grand Imambara: **(a)** from north-east with entrance portal centre right; **(b)** court and hall.

311. Lucknow, Jami-masjid: **(a)** prayer hall from south east; **(b)** central *mihrab* bay.

312. Lucknow: **(a)** Qaisar Bagh portal **(b)** La Martinière, west front.

elsewhere in pre-18th-century Rajput domains, sandstone was used as timber might have been, for posts and beams in the traditional Hindu manner, with the screens or similarly embossed panels inserted into grooves cut into them. Storeys proliferate in the later houses and so too do balconies, galleries, deeply carved *bangaldars*, cusped arches, baluster colonettes and floral panels. The Patua Haveli, built to accommodate a greatly extended family in the 19th century, represents the peak of ostentation in the late Jodhpur manner. A stronger, more arrogant example is the bizarre tower-like mansion in which Diwan Salim Singh lorded it over his compatriots until they disposed of him.

312 (a)



312 (b)

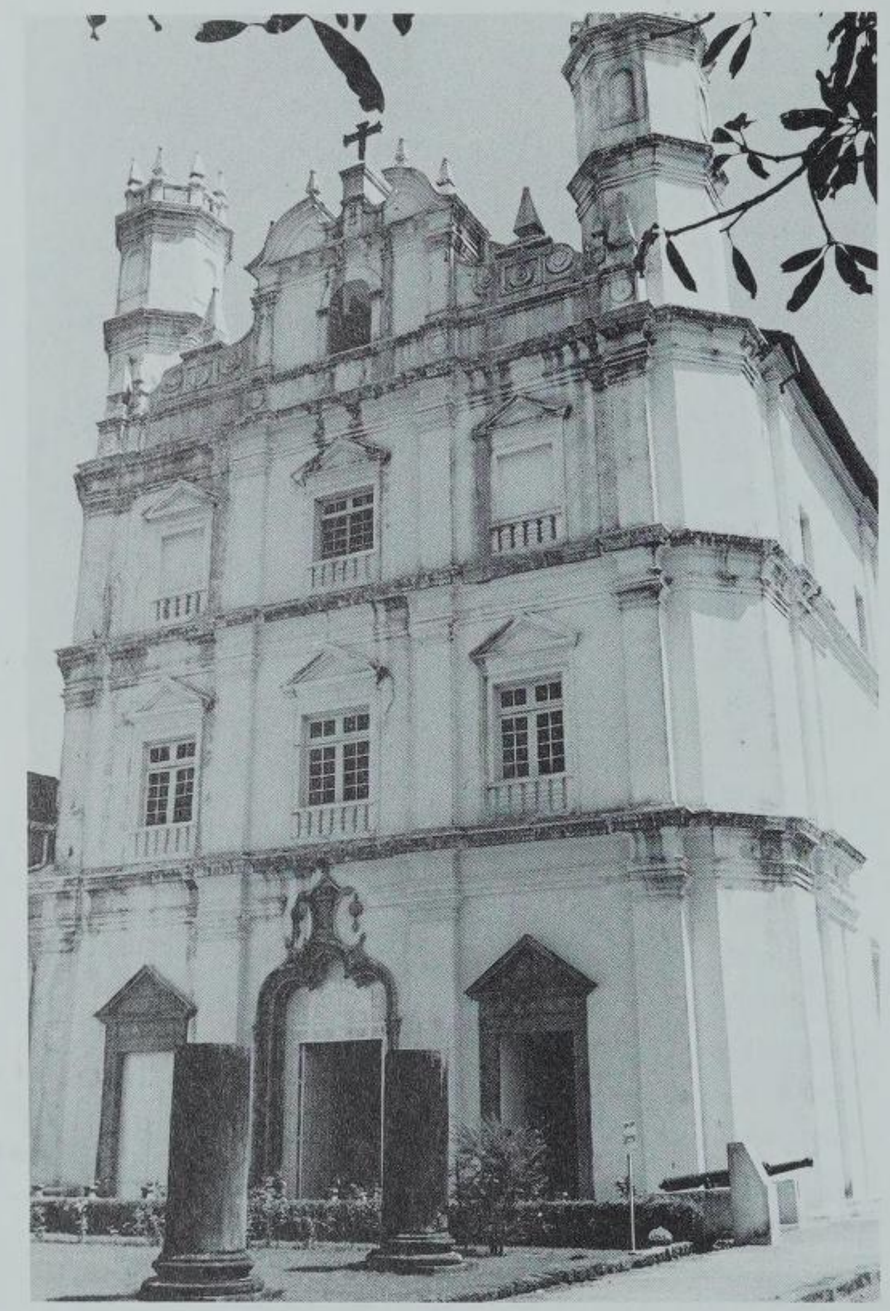
The fantasy, which is the charm of this palatial style, gave way to delirium as the 18th century gave way to the 19th and the crossing of the debased court tradition with imported European forms generated a style of prodigal decadence. Of the many princely patrons who embellished their seats in this period, the rulers of Oudh at Lucknow were perhaps the most prolix. Their efforts, primarily in brick and stucco, encompass the Great Imambarra, built for the performance of the Muharram ceremony by Nawab Asaf-ud-daulah (1775–97), and the Qaizar-Bagh palace which was not completed until the reign of Nawab Wajid Ali Shah (1847–56) towards the end of Oudh's independent career. In the latter the colonial contribution is essential – as it is in the bizarre mansion-tomb built near Lucknow by the French General Martin (1735–1800) under the inspiration of Akbar at Sikandra – and in innumerable other works from the grandiose 17th-century palace of Tirumalai Nayak in Madurai to the late mosques and temples of Bengal. The Lucknow Imambarra is dominated by a bombastic entrance portal, aping the Sublime Port of Istanbul, and a daring vaulted hall of equally empty pretentiousness which well represent the attrition of tired convention.[9]

Church and Colonial State

In their enclaves along the west coast of the Indian peninsular from Diu and Daman to Cochin and around to Sao Tome near Madras, the many churches and monastic buildings left by the Portuguese bear testimony to a zeal for the Christianizing mission that ceded nothing to the enthusiasm of the merchant for the fabulous rewards to be won from Indian trade. Few match in grandeur the great religious and secular works of Goa, the extensive and prosperous seat of the Portuguese in India from 1510 to 1835, where the flowering in the Subcontinent of post-Renaissance European Classicism and its Mannerist and Baroque permutations is admirably represented. Many luxuriantly appointed estate mansions – mainly 18th-century – survive throughout the former Portuguese holdings but in the old capital itself the churches stand virtually alone. Even the palace of the Viceroys, the fort and the city's defences, have gone though the 'Gate of the Viceroys' (1596 rebuilt 1954) still marks the point at which new pro-consuls were received on their arrival from Europe.

From the surviving churches, outstanding are the Cathedral of St Catherine, seat of the Primate of the Indies (founded 1562, rebuilt from 1631), the Church of the Holy Spirit (so-called 'St Francis of Assisi', from 1521, rebuilt except for the lower part of the front from 1661), the Bom Jesu (from 1594), with the chapel and tomb of St Francis Xavier off the south transept (1655 and 1698), and the Church of Our Lady of Divine Providence (so-called 'St Gaetano' or 'Cajetan', from 1665). Prophetic of colonial practice, at least two of these

48; 49



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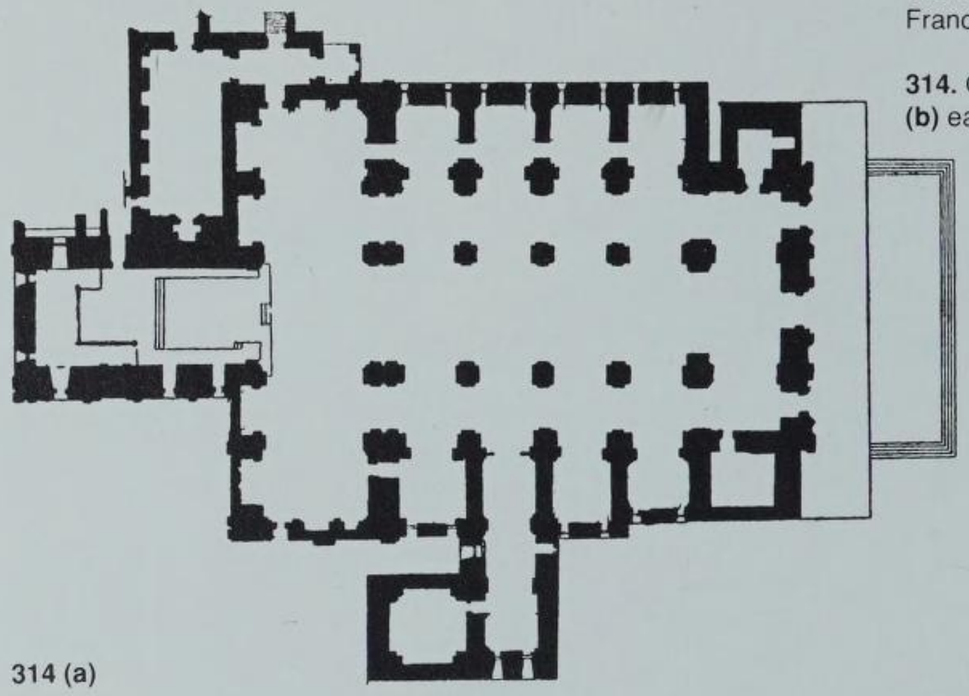


314 (a)

314 (b)

313. Goa, Church of the Holy Spirit (St Francis of Assisi): west front.

314. Goa, See Cathedral: **(a)** plan (1:1000); **(b)** east front; **(c)** towards high altar.

are associated with the colony's Chief Engineer and clearly reveal the influence of the pattern book – the collection of various plans, sections, elevations and details, sometimes from seminal buildings, often from the imagination of the compiler, which was frequently the mainstay of the provincial and colonial designer. Certainly, however, the decorative complexity of the Mannerism so characteristically promoted by the pattern-book, let alone the theatricality, sculptural exuberance, richness of materials and colour, which were the essential qualities of metropolitan Baroque, were far from foreign to the Indian builders who worked for these designers.[10]

The major element surviving from the Church of the Holy Spirit, adjacent to the cathedral, is the splendid trefoil Manueline portal which, typically, brings Gothic stylization to bear on nautical and marine motifs. This provides central emphasis otherwise lent only by the slight widening of the middle zone of the three-storey facade in which, though the proportions are hardly canonical, the regular repetition of pilastered bays in clearly defined ranges is typical of the provincial early Renaissance. The plan, of hall-like nave with subsidiary chapels and minimal transepts but no aisles, conforms to the ultimately Albertian reformation of the basilican prototype expanded by Vignola to meet the post-Tridentine requirements of the Jesuits. In execution from 1661, the majestic space and its opulent fittings, which culminate in the great arch of the high altar retable, resoundingly echo that crusading Order's proclamation of the Church Triumphant.

314 (c)

The Cathedral of St Catherine, built by the colony's Chief Engineer Julio Simao, is an amplification of the familiar early Renaissance Roman type represented by Santa Maria del Popolo in uncertain awareness of Vignola's masterly Roman Gesu: the formula was to remain enduringly popular and was to be developed with French sophistication not only in Pondicherry but in such smaller 18th-century Portuguese works as the Church of Our Lady of the Rosary, Nellitope, Madras. Approximating canonical proportions, the Cathedral's facade is set slightly forward of twin towers. The cool, Classical barrel-vaulted interior may be seen – ironically – as a synthesis between the traditional basilica and Vignola's Roman Gesu formula of a single expansive, unobstructed hall flanked by shallow transcepts and chapels. Dominated by a sumptuous retable in the Iberian Renaissance manner, it recalls the scale of San Lorenzo del Escuriall.

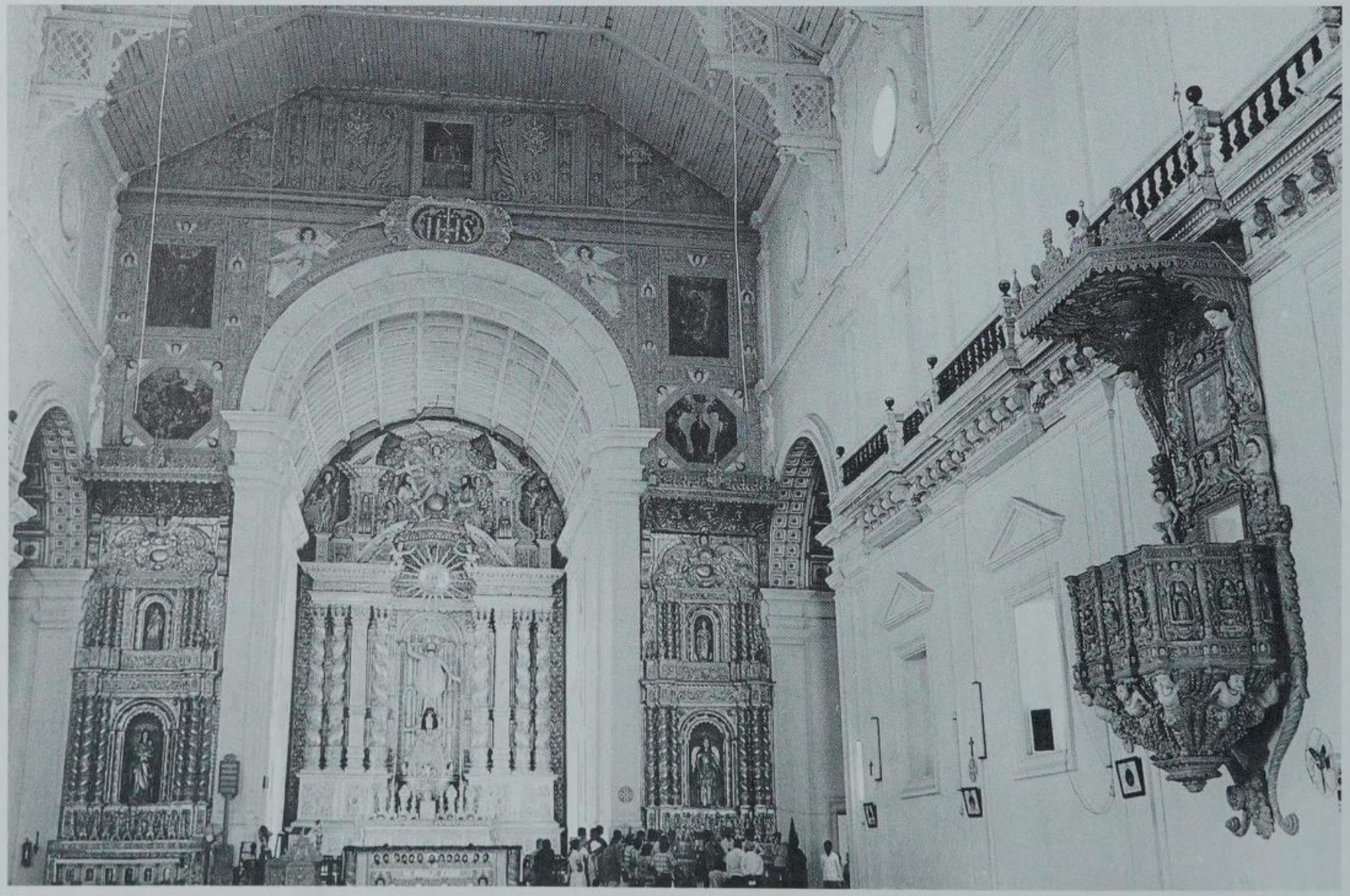
Rich, if hardly Plateresque, the facade of the Bom Gesu incorporates much leathery scroll-work and oddly proportioned pilasters at variance with the canonical four-storey sequence from Doric at the base to Composite at the top. St Anne's Church, Tallauli, is a coarser, more massive variant between two towers and, at Diu, a contraction of the Bom Gesu formula achieves more éclat for the Cathedral of St Paul in the startling contrast of the fecund white stucco ornament with the rich red-brown wall. Provincial late-Mannerist, perhaps, these works hardly comprehend the planar variation or sense of scale essential to Baroque. Their impressive halls clearly respond to Counter-Reformation Jesuit requirements – except perhaps for the timber roof of the Bom Gesu. The Tallauli church has a stucco barrel vault rising over quaintly superimposed Corinthian Orders, alternating at clerestory level with Salomonic aedicules. This work could well be due to a local follower of Simao, to whom the Bom Gesu is attributed. If Simao's work elsewhere suggests an Italian pattern book – the 'Viceroy's Arch', for example, has something of Serlio about it – the Bom Gesu's splendid set of retables, with their profusion of Salomonic columns, recall even Dietterlin. The most florid of pattern-books is outdone by the later tomb of St Francis Xavier – on its Florentine Grand-Ducal base – but in the next century, even such a prestigious confection as this was eclipsed by the astonishing virtuosity of the wood carving in such works as the high altar retable of the church of the Mother of God at Pomburpem or, most particularly, the little chapel of Our Lady of the Rosary in the church at Bassein dedicated to the Holy Name of Jesus.[11]

48

The last great Goan work to follow a metropolitan prototype, the Theatine church of Our Lady of Divine Providence clearly, if remotely, reflects St Peter's in the Vatican. It has a sumptuous, free-standing Salomonic high altar and the domed Greek-cross volume has a Baroque sense of scale, inside and out. However, the arrangement of niches and intermediate arched doors below the roundels in the

315. Goa, Bom Jesus: **(a)** west front; **(b)** nave towards high altar; **(c)** chapel of St Francis Xavier.

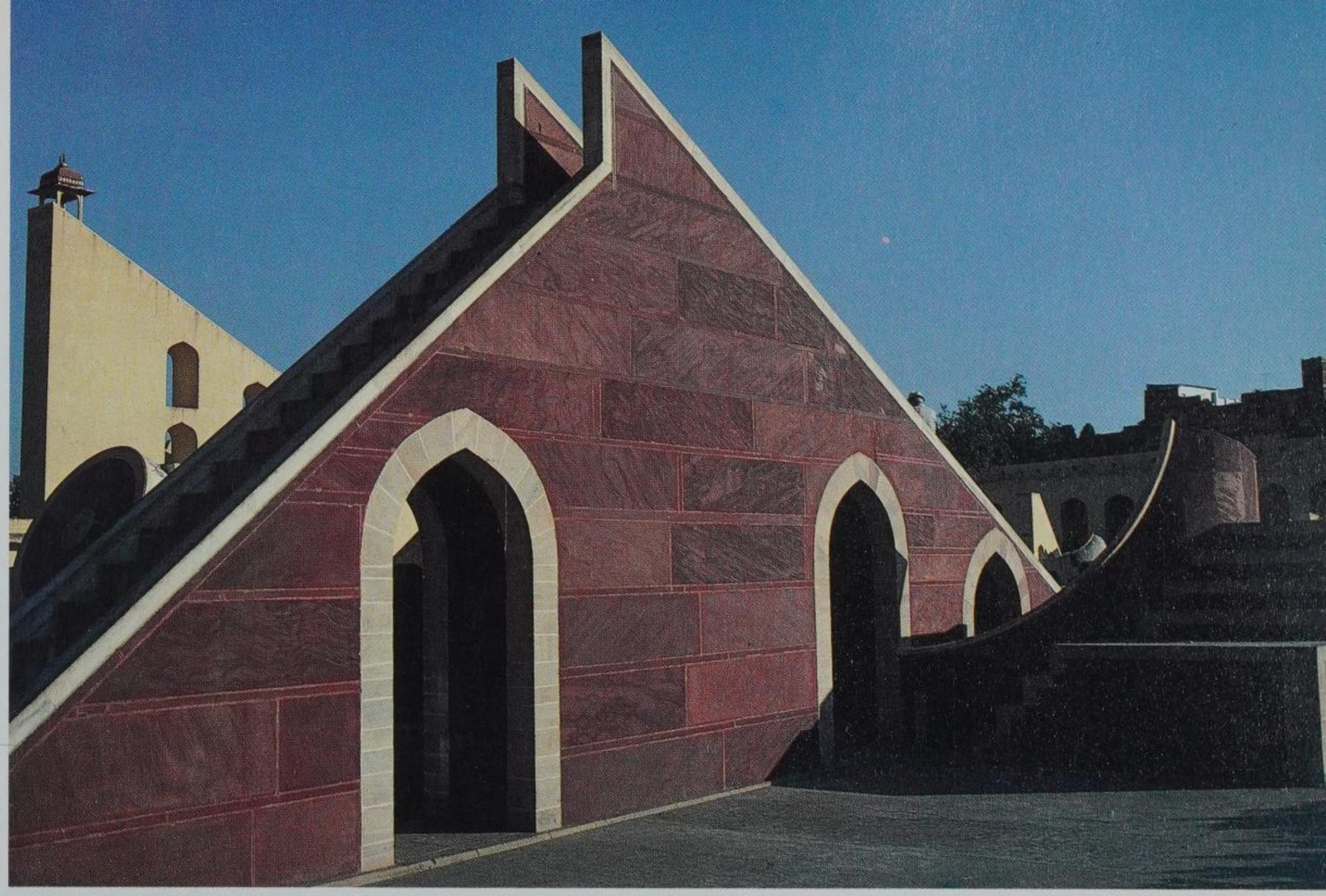
315 (a)



315 (b)

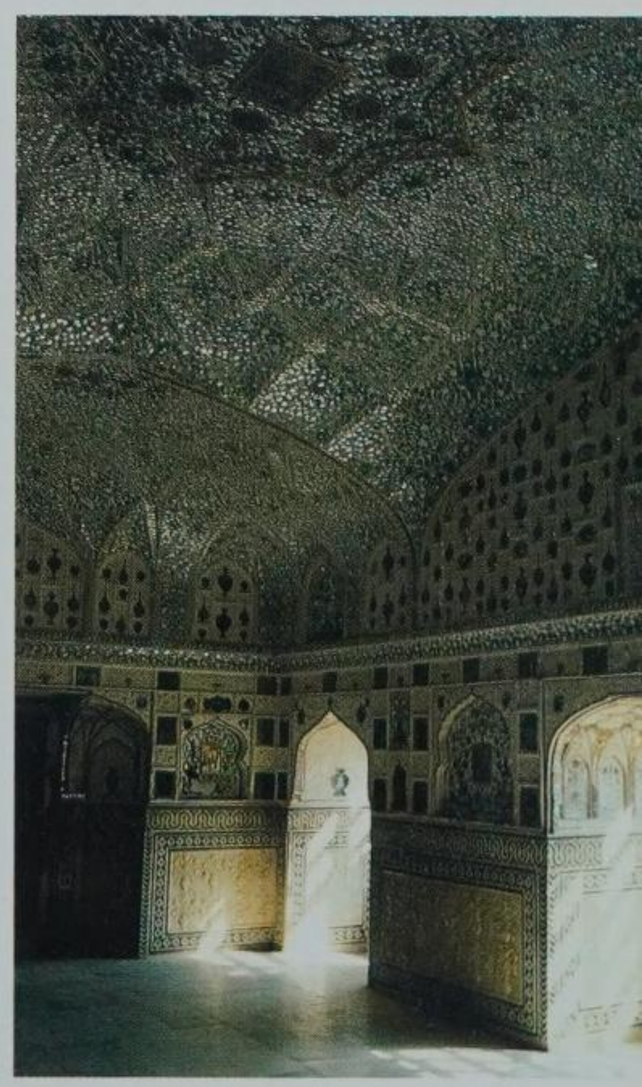
315 (c)

Plate 45. (a) Jaipur, Jantar Mantar; **(b)** Jaipur, Chand Mahal from court of former *diwan-i-am*; **(c)** Amber, Jai Mandir *shish-mahal*.



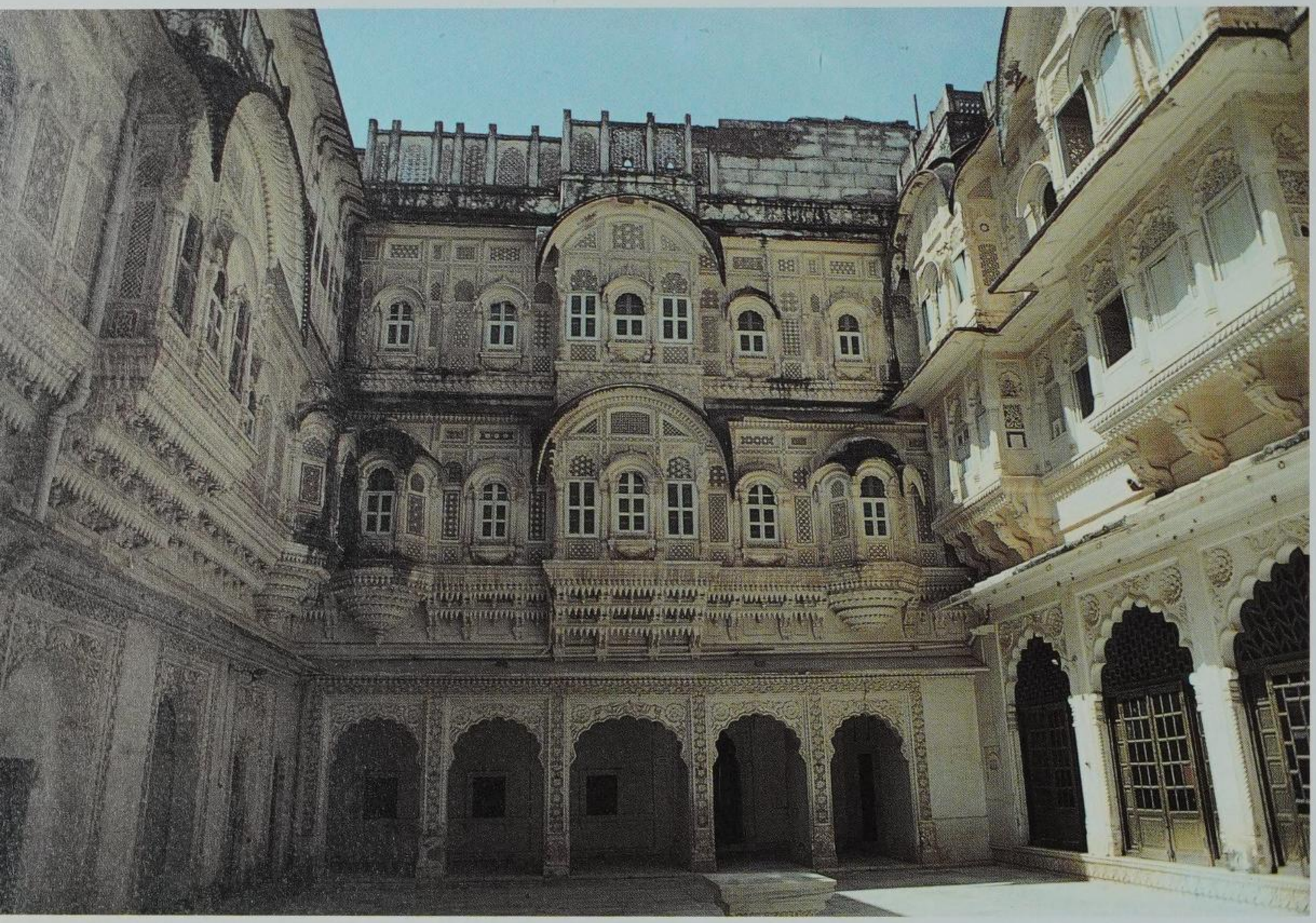
45 (a)

▽ 45 (b)

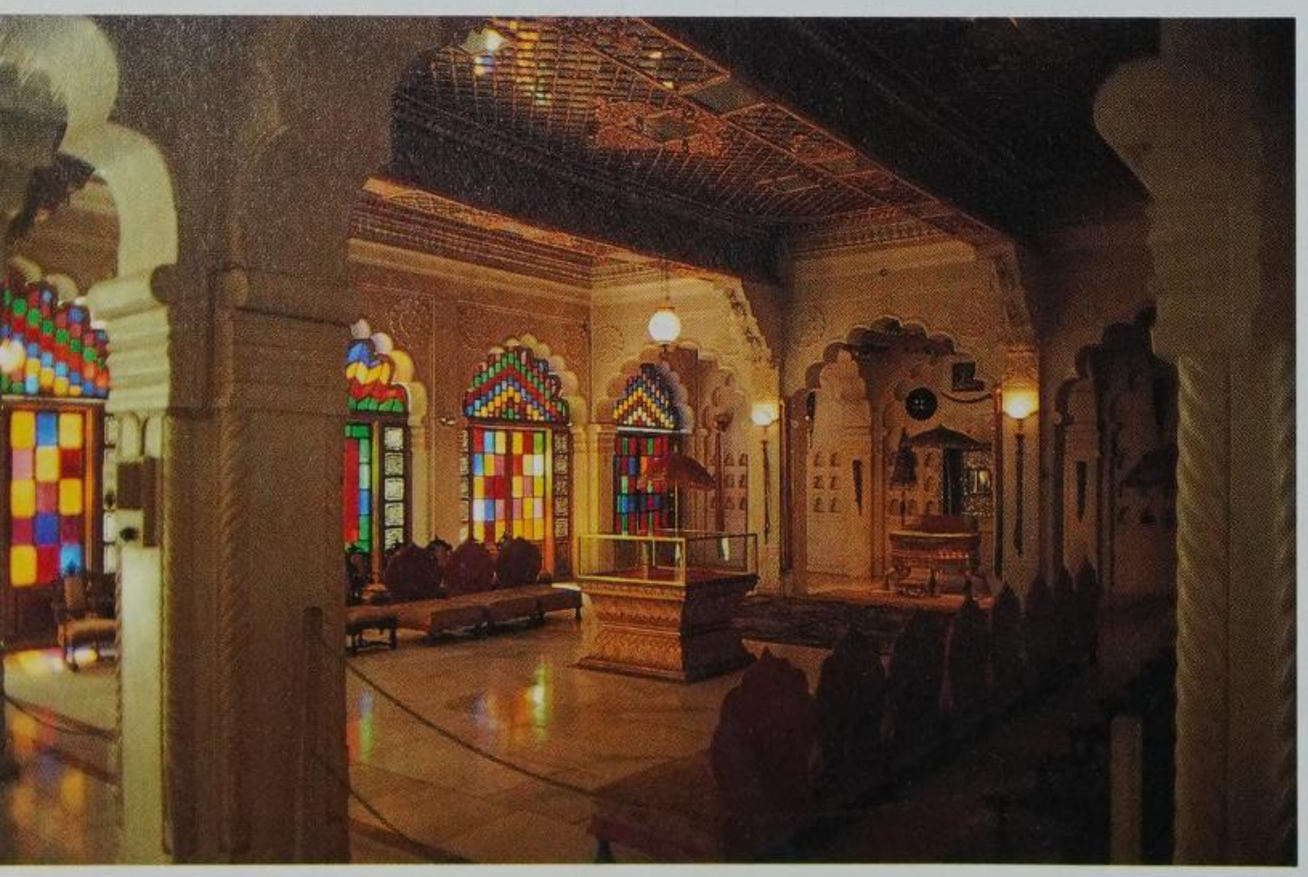


45 (c)

Plate 46. Jodhpur Fort **(a-b)** Mothi Mahal Chowk and throne room; **(c)** *shish-mahal.*



46 (a)



46 (b)

46 (c)

Plate 47. (a) Bikaner Fort, Anup Mahal: *diwan-i-khas* of Raja Surat Singh;
(b) Udaipur, City Palace: Mor Chowk.

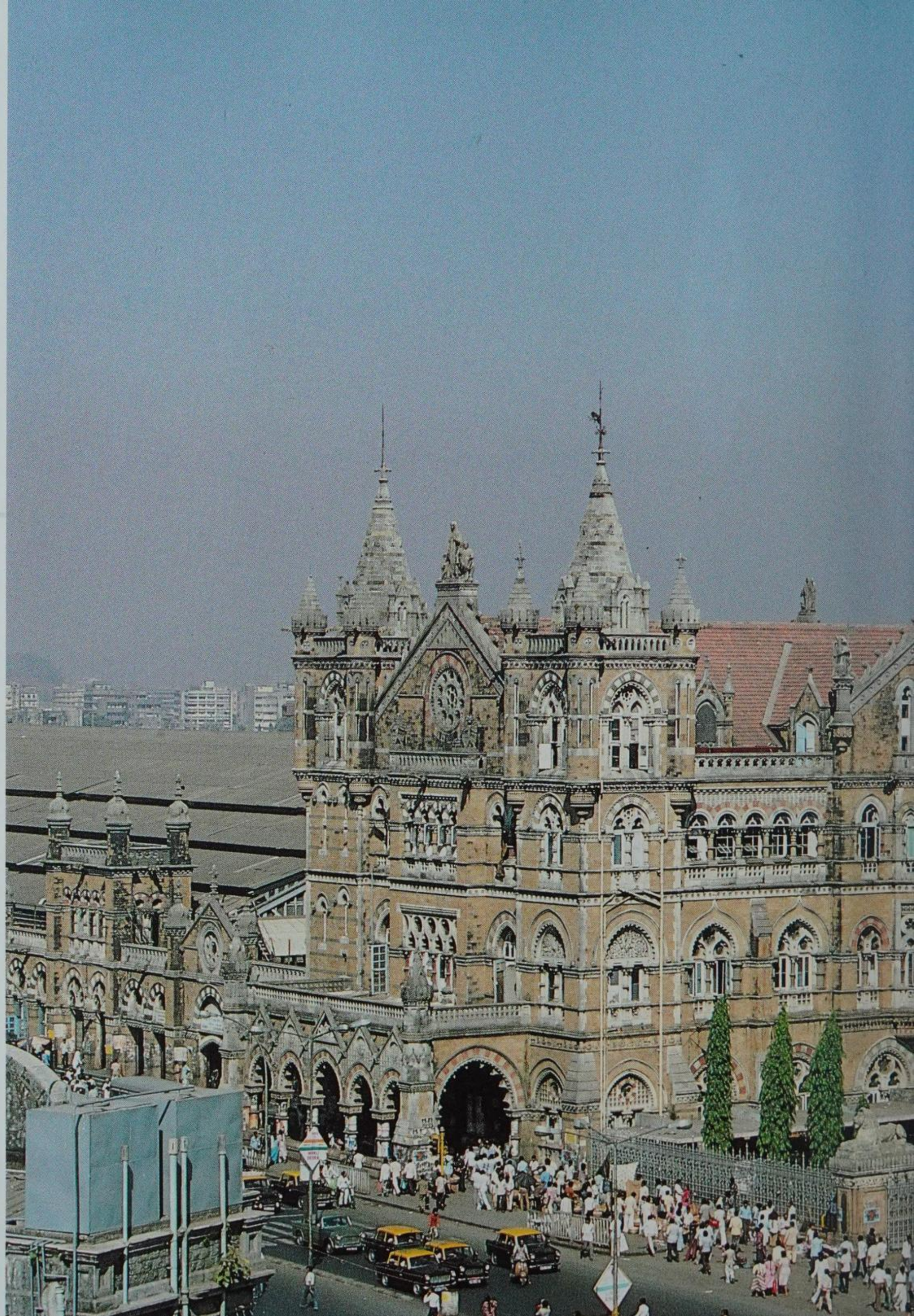
47 (a)

47 (b)

Plate 48. Goa, Church of the Bom Jesus: nave and high altar.

Plate 49. Goa, Church of the Holy Spirit:
nave and high altar.

Plate 50. Bombay, Victoria Terminus: principal entrance front.



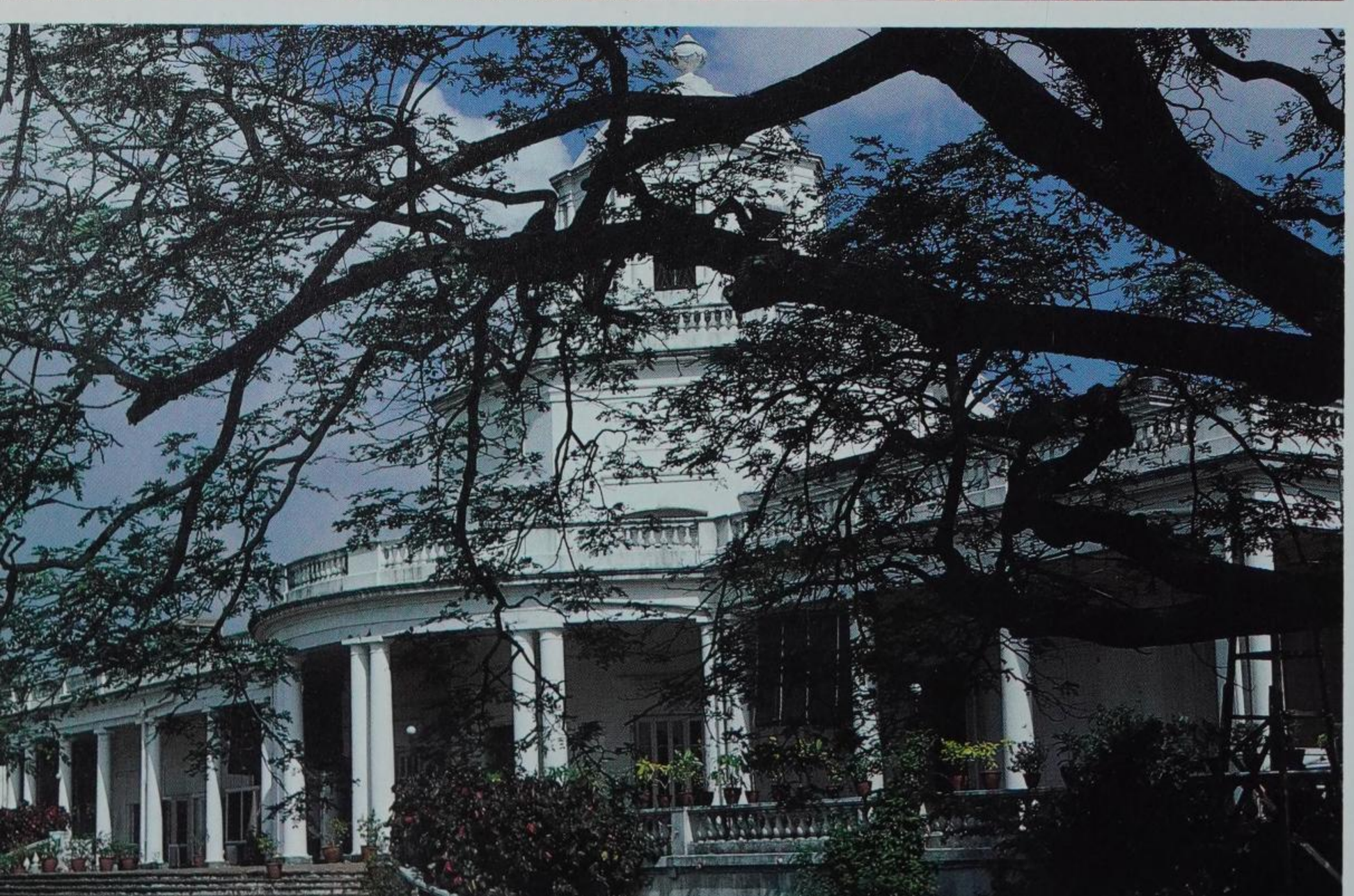


Plate 51. (a) Bangalore, bungalow;
(b) Madras, Adyar Club: garden front.

51 (a)

51 (b)

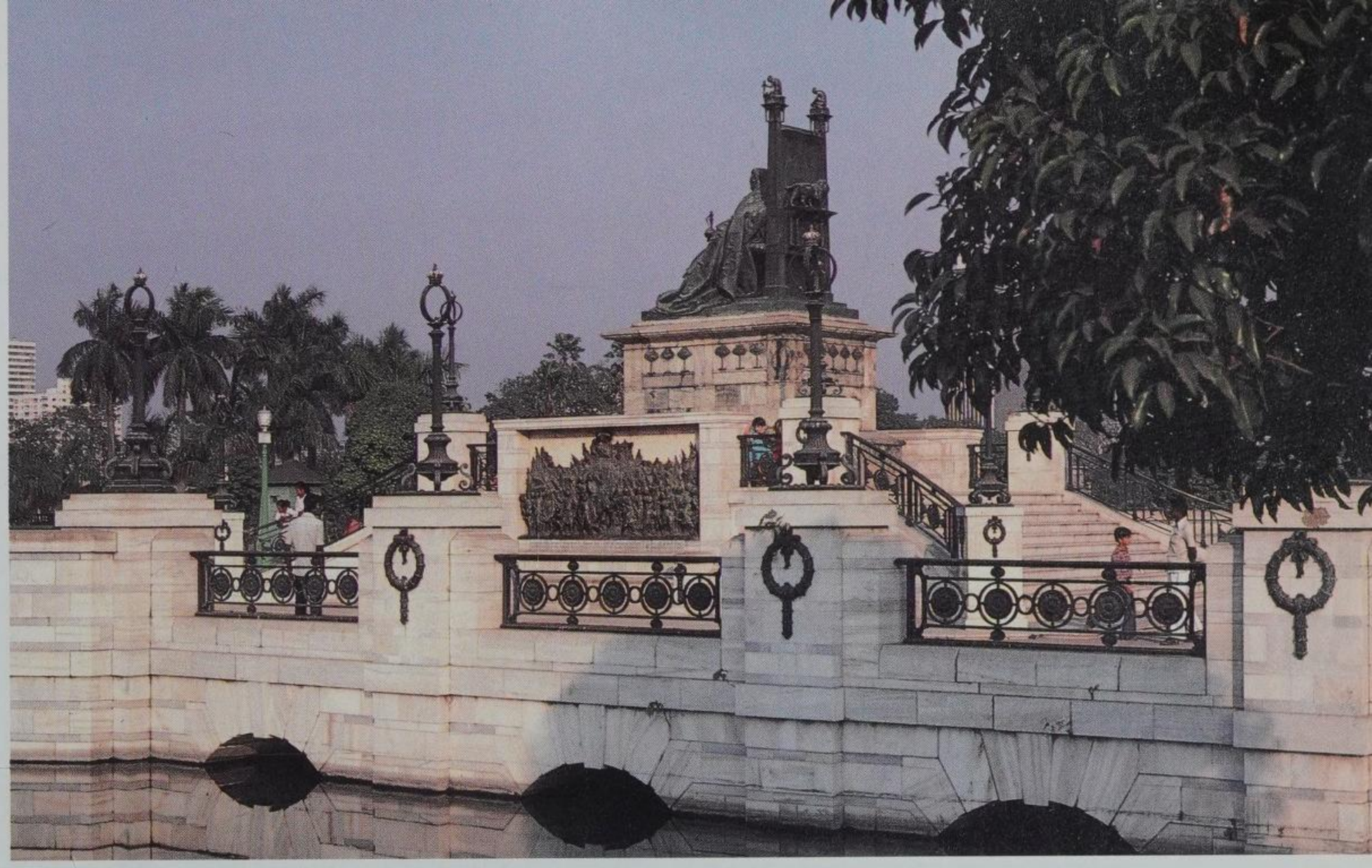
Plate 52. (a) Calcutta, Marble Palace: entrance front; **(b)** Bikaner, Lal Garh Palace: principal *daulat khana* court.

52 (a)

52 (b)

Plate 53. Bombay, University: library front from *maidan*.

Plate 54. Calcutta, Victoria Memorial **(a)** Queen-Empress monument before entrance front; **(b)** west front.



54 (a)

◁ 53

54 (b)

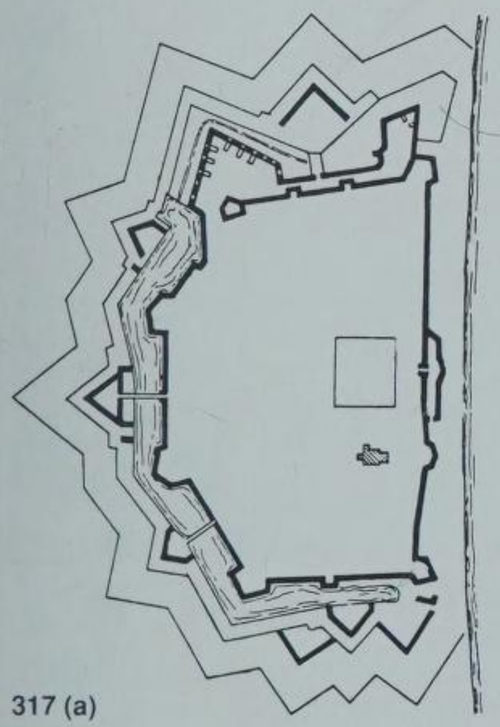
Plate 55. New Delhi **(a)** Secretariat Buildings from south-east; **(b)** Rashtrapati Bhavan (Viceroy's House), garden front.

55 (a)

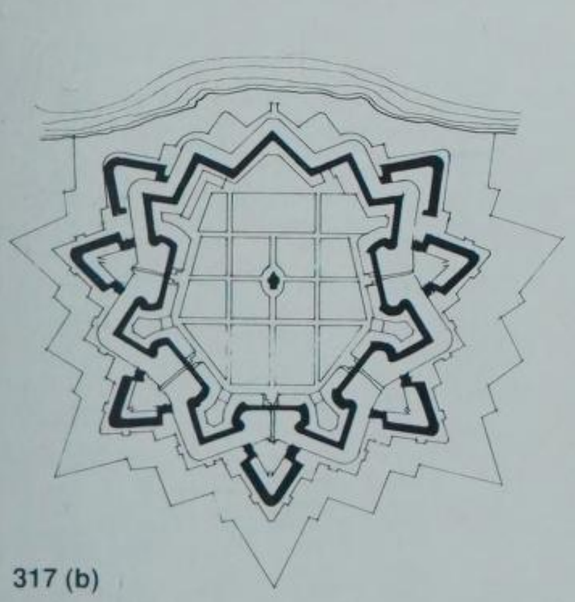
55 (b)

316. Goa, Church of Our Lady of Divine Providence (St Gaetano): west front.

316



317 (a)



317 (b)

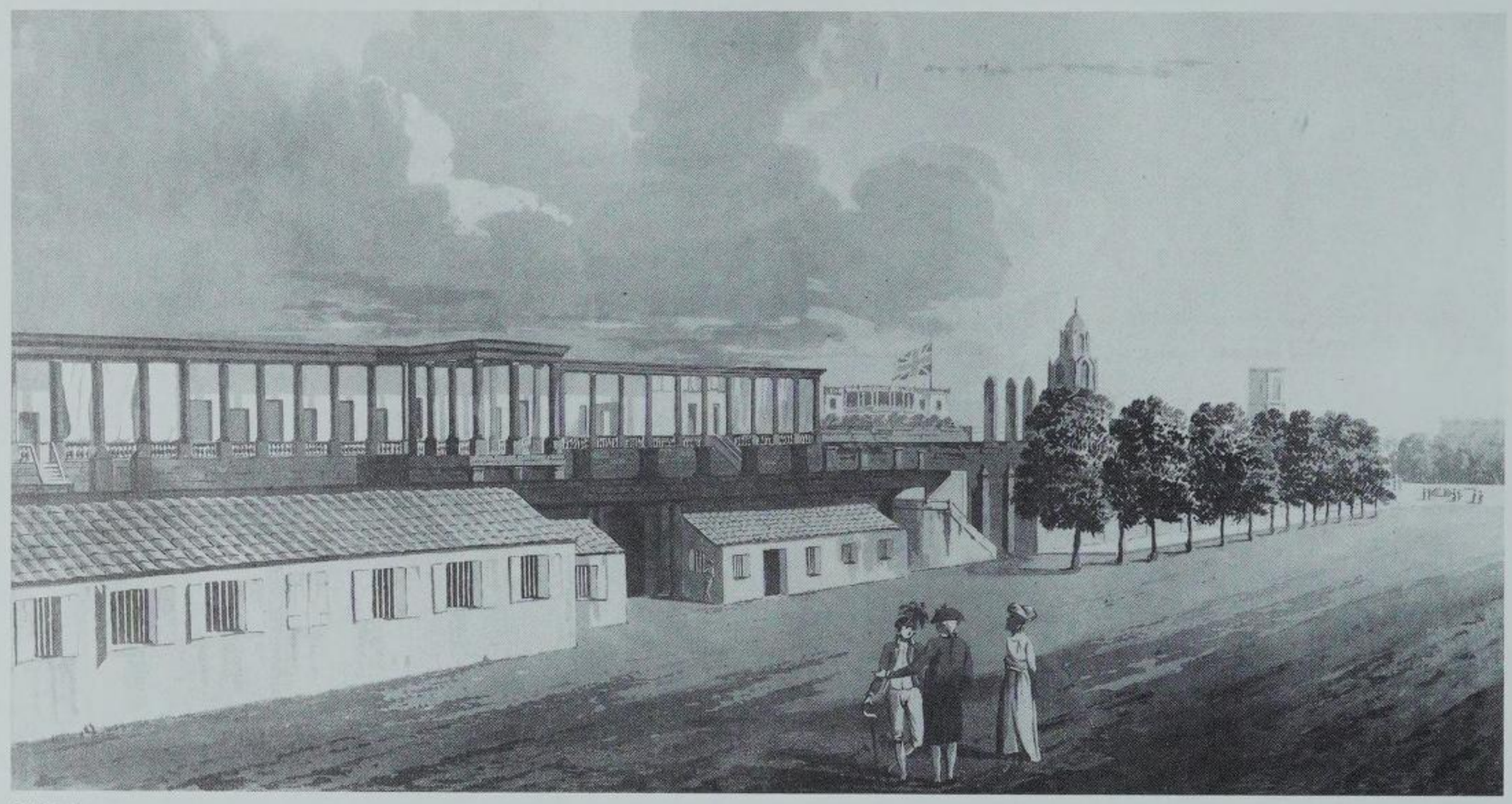
317. British fort plans (1:5000): **(a)** Madras, Fort St George; **(b)** Calcutta, Fort William.

compressed facade tends to assimilate the outer bays into unsettling triads and the transition from a two- to a three-dimensional expression of the order is prompted by no subtle gradations of plane — as in Maderno's seminal Roman masterpiece.

If the remains at the Portuguese settlements assert concern with proselytization as much as profit, those of the first British settlements have little to do with the former even though their earliest works of architectural merit were churches. As with the other European powers who came in the second wave of colonization on the footholds conceded to them by the indigenous authorities, their first buildings were warehouses protected by a fort. Just as India's earliest forts followed the ideal planning principles of her own *shastras*, the star-shaped plan introduced to India in the 16th century by the Portuguese at Daman reflects many Italian Renaissance permutations of the Vitruvian ideal city. The principles of defence underlying its application to the most sophisticated colonial forts, the British ones at Madras and Calcutta, were perfected by the 17th-century French military engineer Vauban. Regular polygonal geometry and salient triangular bastions with recessed flanks at each angle maximized all-round cover and minimized the vulnerability of the curtain wall. Defence in depth was assured by interposing ditches and earthworks between the main ring of bastions and lower, outlying salients beyond which lay the gently sloping open field of fire (*maidan*).[12]

The first forts at Madras, Bombay and Calcutta, the seats of the presidents who governed the Company's expanding interests in India, were founded along similar lines within four to six years of settlement. They consisted of doubled walls and angular bastions built low for artillery to command the level of approach and taking advantage of the natural defences provided by the sea and nearby watercourses — except at Calcutta where ditches had to be introduced on all three landward sides of the regular rectangle fronting the Hugly. Around them grew the distinct 'black' and 'white', native and European settlements.

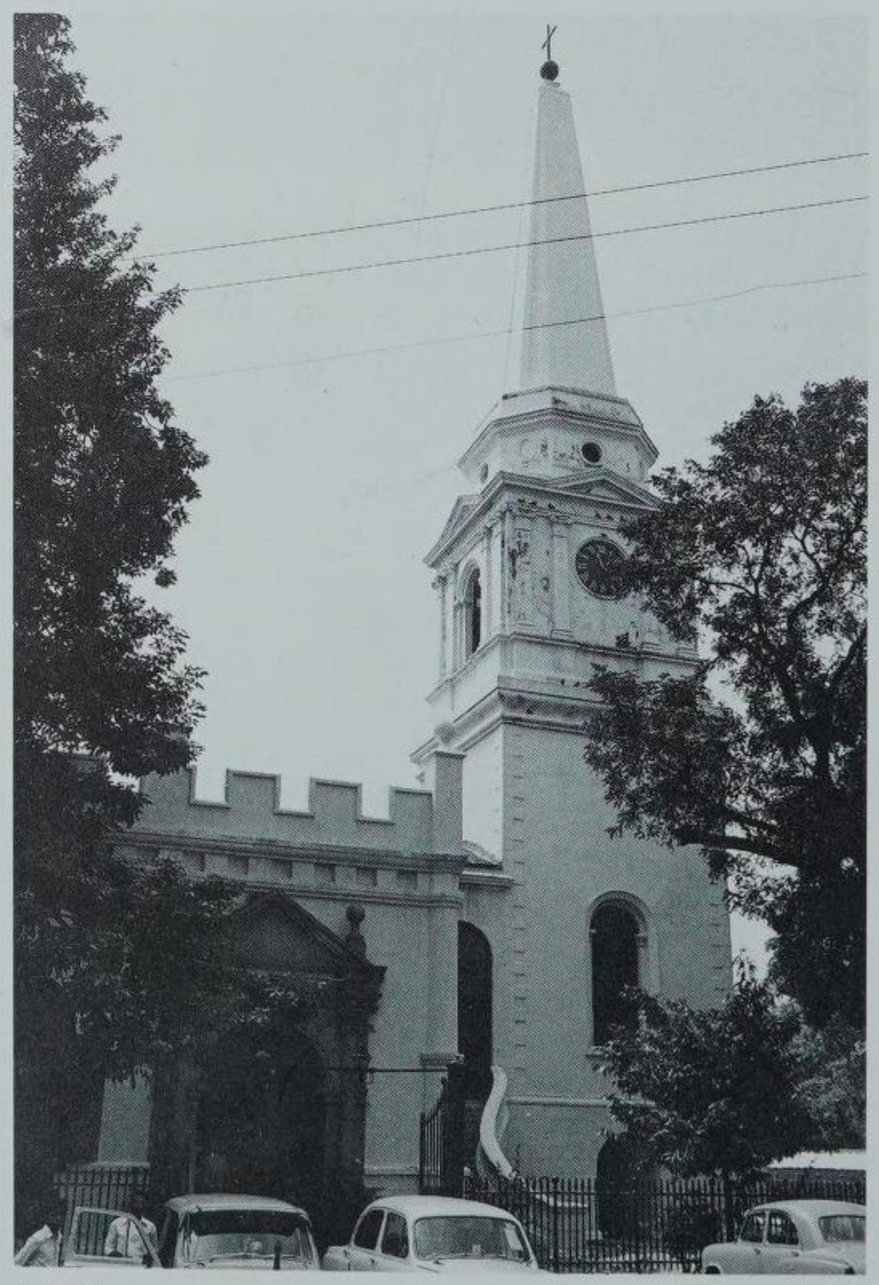
Bombay's Fort St George achieved its definitive form about 1715. Fort St George Madras fell to the French in 1745 and again in 1758. After the end of the Seven Years War, back in British hands, it was rebuilt in its present semi-octagonal form in accordance with the principles of Vauban's follower Cormontaigne, published without authority. After the Nawab of Bengal took Calcutta in 1756 and was then defeated by Clive, a new Fort William was begun by the Company's Chief Engineer in Bengal, Captain John Bohier, even more completely in accordance with Vauban. On an island site by the river unencumbered by buildings, Fort William's field survives as the Maidan, emulated at Bombay.



318 (a)

In addition to warehouses, within the fort walls the military engineers who built them had to provide arsenals, barracks for the troops and, at first, limited residential accommodation for the presidents and their staffs. A church, too, was required to meet the spiritual needs of the garrison of a Christian power. Primacy as the first English church – and the first English building of any note in India – goes to the simple arcaded and crenellated basilica of St Mary founded within the Madras fort in 1678 on the initiative of the governor, Streynsham Master. Except for St Mary's and the celebrated black Doric colonnade built in 1735 to link the Madras fort's central square to its sea-gate, none of these factory buildings gained much architectural distinction until the later-18th century and even then the Company resisted the contention that Indians respected impressive builders. Though often equipped as an architect with little more than a pattern book – or, as in the case of the French at Pondicherry, the lucid treatises of J-F. Blondel and his peers – the military engineer was to sustain his pre-eminence in all branches of European building in India until well into the second half of the 19th century.[13]

From the outset of its rebuilding in the last decades of the 18th century as the Company's principal seat, Calcutta, was stamped with the hall-mark of authority like the era's classic European capitals – indeed contemporaries likened it to St Petersburg. There were two main axes. The first one led from the civil arm of authority around an expansive square dominated by the barrack-like Writers' Building, to the military arm in the Maidan by Fort William. The secondary one embraced the Council House, the Courts and the Town Hall.



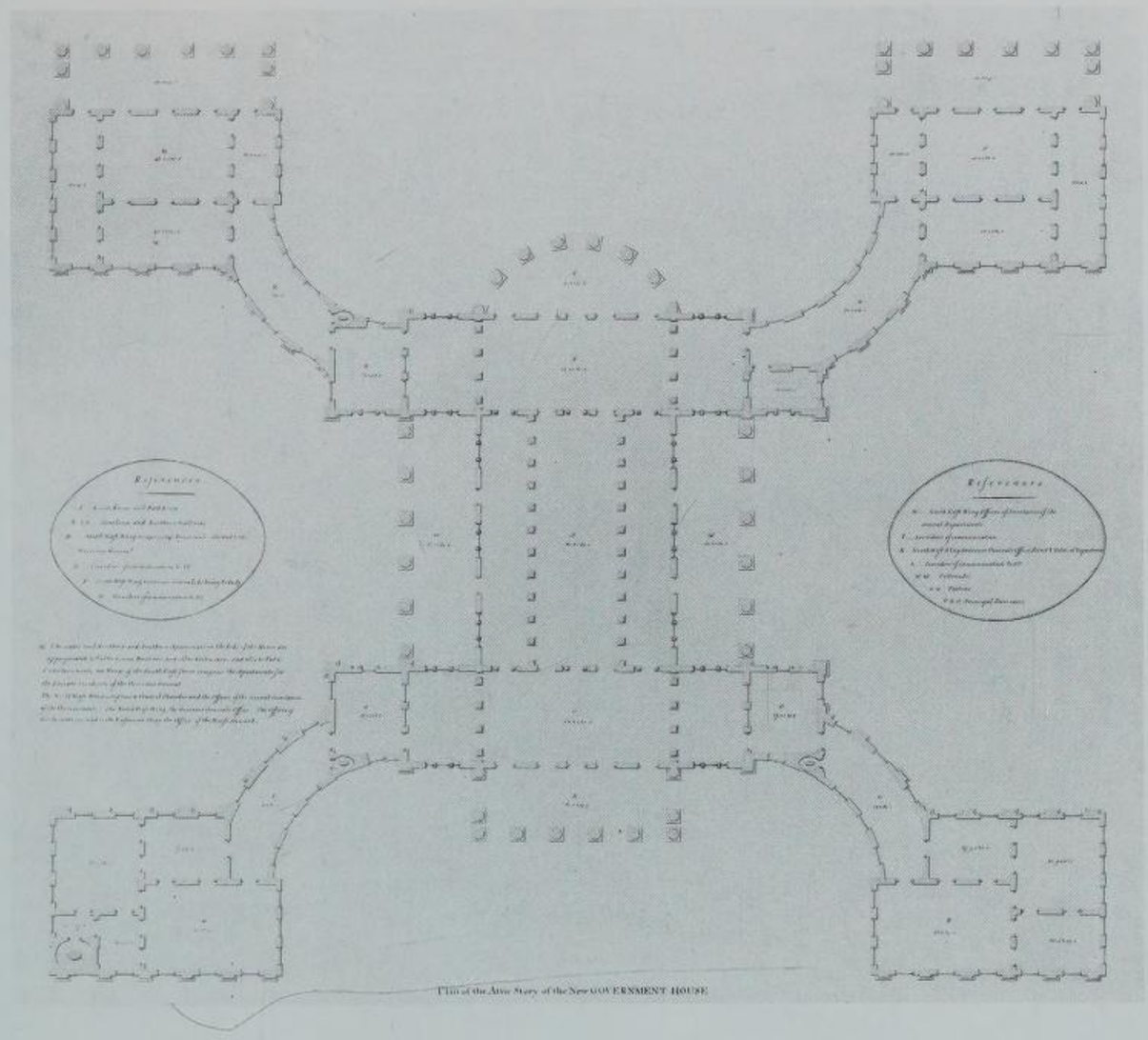
318 (b)

GEORGE GILBERT KEBLE.
DEPARTED THIS LIFE
ON THE 2ND DAY OF AUGUST, 180
AGED 36 YEARS.
A CIRCLE OF AFFECTIONATE FRIENDS
HAVE CAUSED THIS MONUMENT TO BE ERECTED
TO HIS MEMORY.

318 (c)

318. Madras, Fort St George: **(a)** early-19th century aquatint showing black colonnade; **(b–c)** St Mary's Church from north and Keble monument on west end interior wall.

319. Calcutta, Government House: **(a)** plan (1:1000) of attic floor showing principal double-height spaces; **(b-c)** C. Wyatt's elevations for north-east entrance and south-west garden fronts.

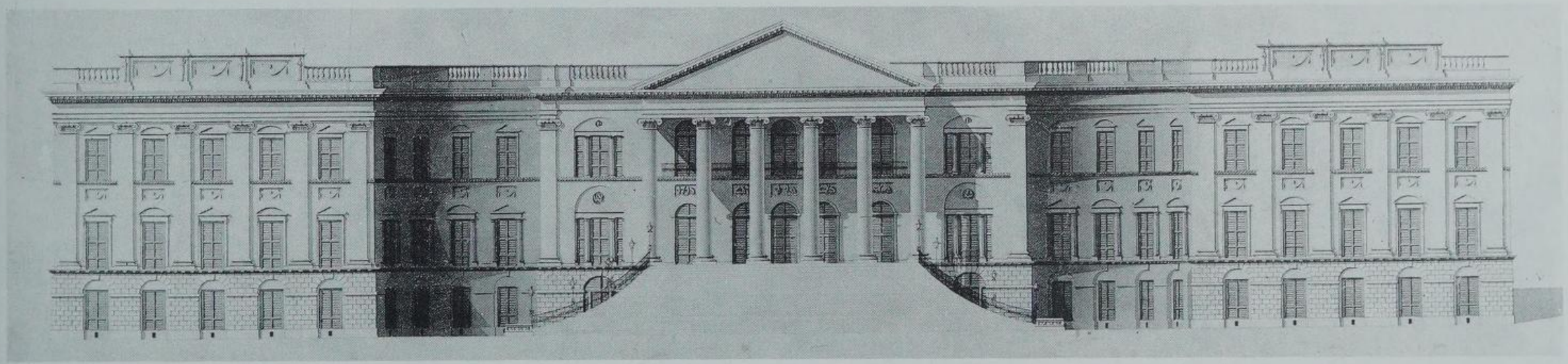


319 (a)

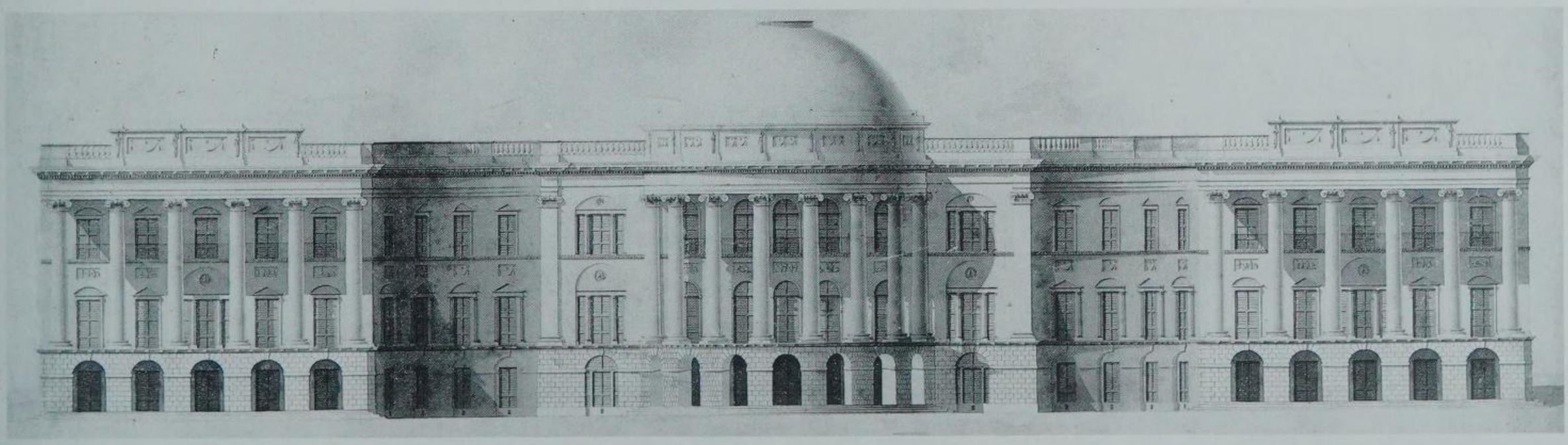
At their perpendicular intersection stood Government House, built for the Governor-General Lord Wellesley from 1798 by Captain Charles Wyatt of the Bengal Engineers — and the architectural family then prominent at home.

The model for this first imperial work was James Paine's published design for Kedleston Hall, Derbyshire. All four of the satellite blocks projected there were constructed here, linked to the central block by quadrant galleries to full height, unlike in the original, and the rotunda in which the central axis culminated, oddly dissected within, was expressed on the garden front. Wyatt's adaptation was well attuned to the climate: the central-aisled hall on both main levels is flanked by galleries or vestibules on all sides, maximizing ventilation, and the main staircase is outside the north portico.[14]

Wyatt's fellow officers produced the other major buildings of the town. Most distinguished, but constructed not without structural vicissitude, was the 'English Palladian' Town Hall of Colonel John Garstin. Lieutenant James Agg proved himself competent in adapting a particular metropolitan model, Gibb's St Martin in the Fields, for the stone tower of his semi-peripteral church of St John. As here, in general the colonial expression of the English Georgian styles adopted to lend the appropriate decorum to the accommodation of the



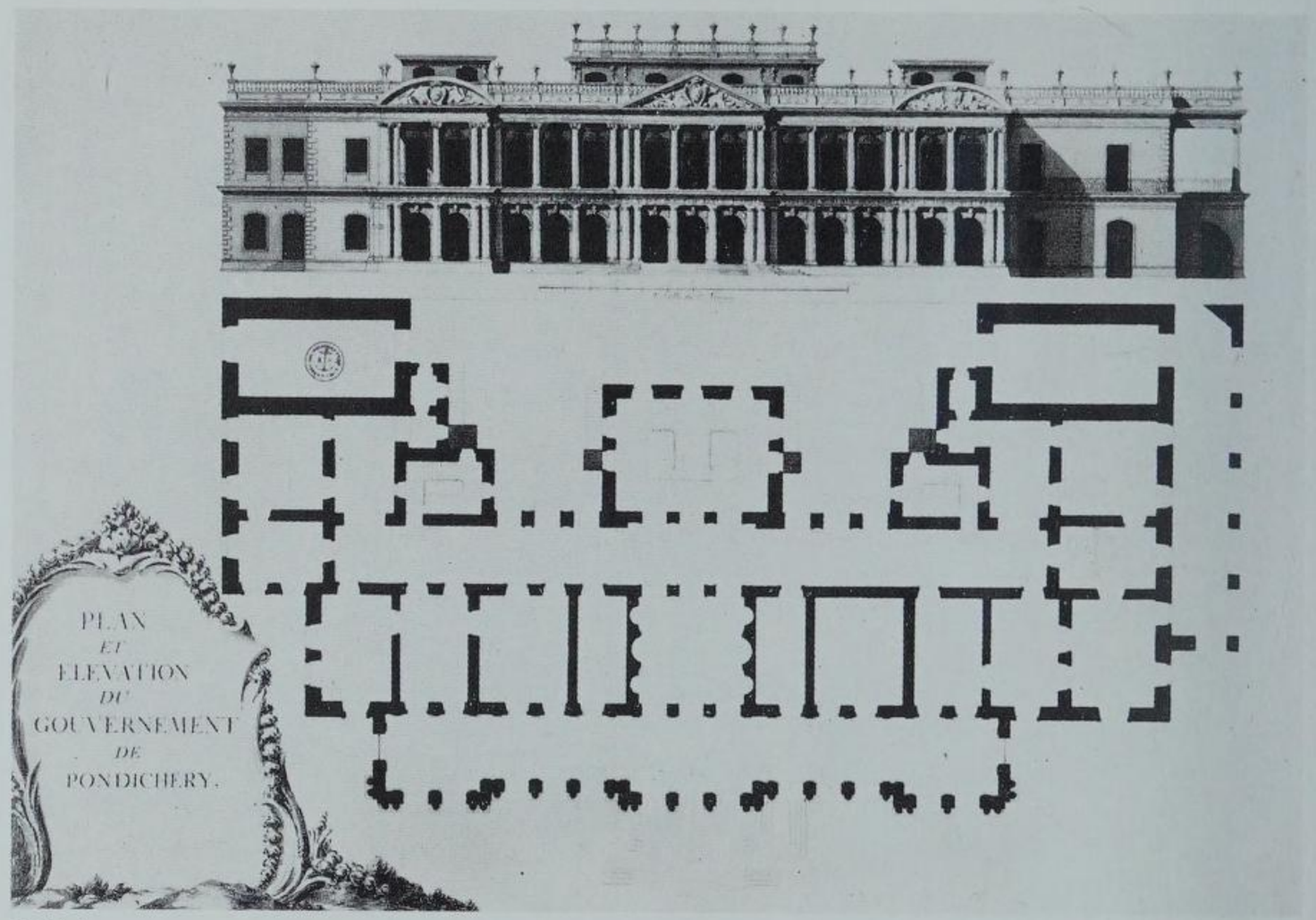
319 (b)



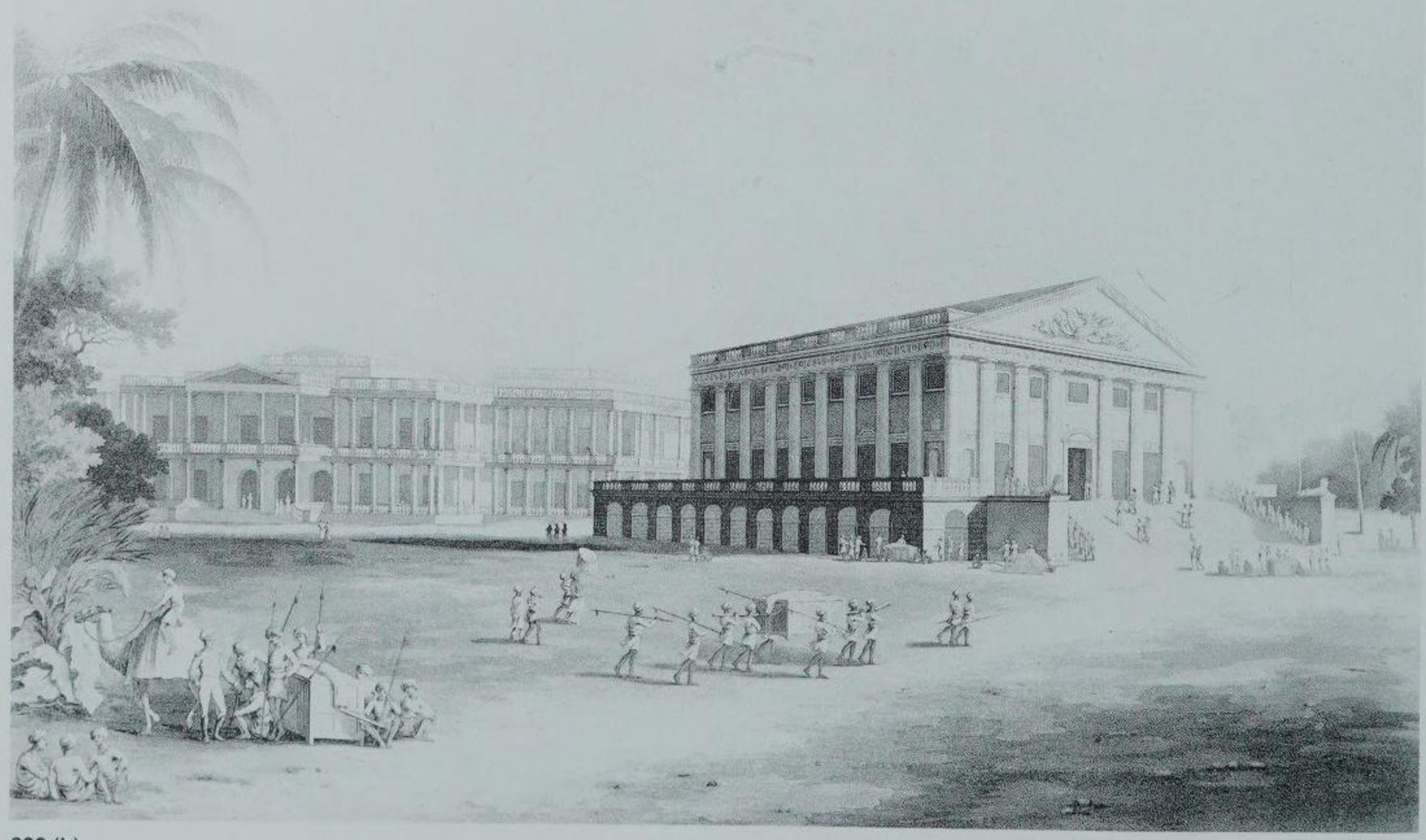
319 (c)

Company's principals in India, was notably more 'Grecian' than at home. This was primarily because of the deep *pteron*-like verandahs which sheltered interiors from the climate, notwithstanding often casual concession to Classical proportions. However the Company's failure to foresee the inadequacy of brick and plaster in the absence of good cheap local stone, on the one hand, and the soldiers' failure to comprehend the full significance of the Classical motifs reproduced in their pattern books, lent much of their work an air of quaint, if sometimes coarse, insubstantiality. In these respects, unlike its French equivalent at Pondicherry, Government House Triplicane (Madras) is typical except for its later Banqueting Hall.[15]

The Madras Government House was adapted for Lord Clive in the 1790s from an earlier one, after the pattern set at Pondicherry by the residence built for Dupleix some fifty years earlier. There superimposed arcaded loggias before clerestory-lit major spaces were articulated with Doric and Ionic Orders in the Academic Classical manner of early 18th-century France. At Triplicane, however, much lighter colonnaded verandahs, elegant but quite uncanonical in their intercolumniations, were erected around much of the side as well as the front. The whole complex is dominated by the Doric Banqueting Hall which, even in its original form



320 (a)



320 (b)

320. (a) Pondicherry, Government House; **(b)** Madras, Triplicane, Government House with banqueting hall right.

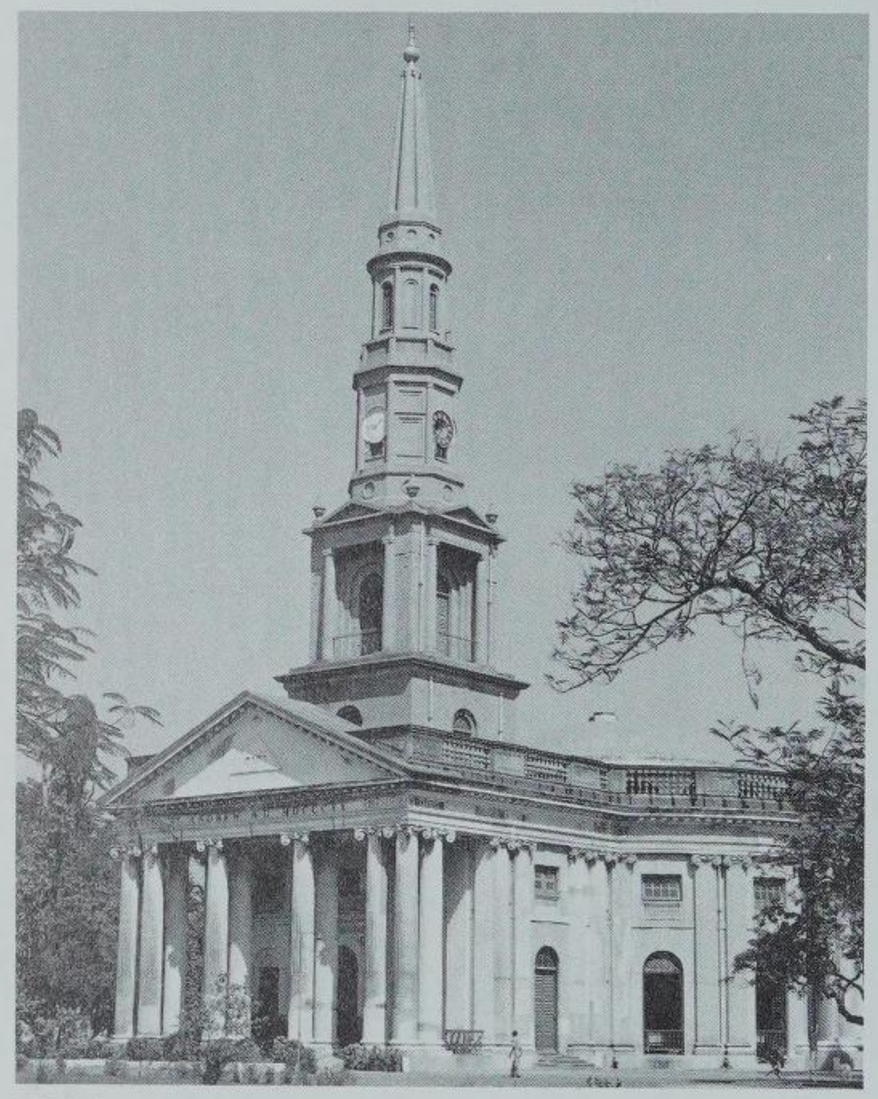
321. Bombay, Town Hall: entrance front from south-west.

322. Madras, St George's Cathedral: south portico.

without the lower arcading – but not least in the application of column to wall – was as remote from its ostensible model, the Parthenon, as the main house is from Academic Classical principle.

Quite different in its exceptional Neo-Classical *gravitas* is the Bombay Town Hall of Colonel Thomas Cowper, Bombay Engineers. It is hardly inferior to many of the works of the masters of French Neo-Classicism. The Greek Doric Order of its powerful temple-fronts doubtless came from the principal source of the English Greek Revival, the work of Stuart and Revett, and the dramatically lit staircase leads to a splendid Corinthian Hall worthy of a mature student of Vitruvius Britannicus.

Despite their airy porticos and slender steeples, the walled and pillared later colonial churches, 'Palladian' in the English sense, ultimately Roman, usually avoid the insubstantiality if not always the coarseness, of detail characteristic of many secular works. St Martin in the Fields was to be an enduringly popular model. The most accomplished homage paid to it was certainly in St George's Cathedral and St Andrew's Kirk, Madras. To the Gibbs's formula, Colonel James Caldwell and Major Thomas de Havilland added side porches for St George's and sturdy aedicules below the distinguished steeple. St Andrew's, with an elegant, fluted Ionic order and a more purely classical steeple, is adventurous in following Gibbs's alternative scheme with circular nave. Contrary to the prevailing fashion, indeed unusual in its centralized plan,



323 (a)

323 (b)

324

323. Madras, St Andrew's Church: **(a)** from south-west; **(b)** nave towards altar.

324. Delhi, St James's Church.

325. Calcutta, South Park Street Cemetery: **(a)** representative view; **(b)** 'Hindu' Stewart memorial.

325 (a)

325 (b)

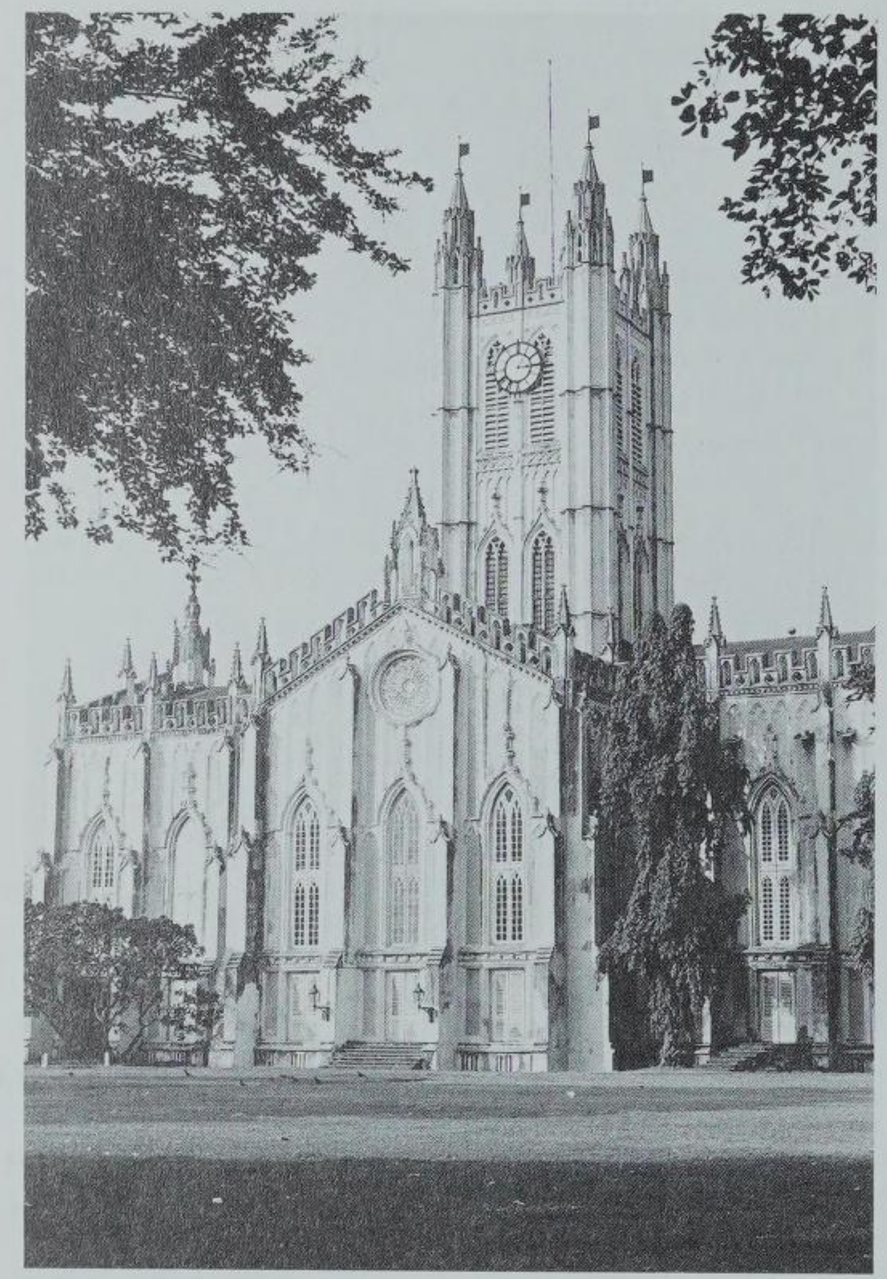
is Colonel James Skinner's Greek cross church of St James, Delhi, the dome of which distantly recalls such High Renaissance works as San Gallo's Santa Maria di Loretto in Rome.[17]

In the early monuments to the European dead the spirit of the pattern book is enshrined – 'petrified' – in marble on the church walls, as at home, in peeling stucco and crumbling brick in the cemeteries outside. Piranesian agglomerations of all known funerary types, the most spectacular of colonial necropolii are those in Calcutta's Park Street, founded in 1767. Here the ubiquitous West-Asiatic canopy tomb type and its Indian derivatives complement the full gamut of forms which the Neo-Classicists took to have been associated with death in Antiquity. Thus, often bizarre variations on *qubba* and *chattri* – cross-fertilization with the Sekhari *shikhara*, for instance, for 'Hindu Stewart' – join urn, sarcophagus, pyramid, obelisque, column and *tempietto* in varying degrees of *gravitas*. Beyond the cemeteries, this Neo-Classical repertory recurs in the early-19th century public memorials erected by popular subscription to civil and military leaders – like Gazipur's rotunda for Cornwallis, Calcutta's column for Ochterlony or Barakpore's *tempietto* for the fallen in the Napoleonic Wars.[18]

The references to Indian traditions in the 'cities of the dead', if significant, are rare. The early 19th-century Romantic flirtation with the exotic, which played the small part in the 'battle of the styles' represented by such Indianized works as Sezincote House or Brighton's Royal Pavilion, did not at first appeal to the British in India. On the other hand, understandably enough, they enthusiastically espoused the moral and aesthetic values of a 'Christian Civilization' propagated by Pugin, Ruskin and the 'Ecclesiologists' at home and the classical pattern book ceded to the 'Ecclesiologist' for churches in India as in England before the 19th century was well advanced.[19]

The metropolitan power found the picturesque, flexible, 'honest', mediaeval English styles promoted by Pugin to be practical, as well as appropriate, for the celebration of its achievements in the ever-widening diversity of building types in the industrial age. This development was anticipated, significantly, in the garrison church of St Peter erected in Calcutta's Fort William in the 1820s as a reduction of the late mediaeval palatine chapel type represented by St George's, Windsor. On a more portentous scale, the trend was established on the other side of Calcutta's Maidan in St Paul's Cathedral of 1839 and in the church begun in Bombay a decade later in memory of the fallen in the Afghan Wars. St Paul's, by Major William Forbes, Bengal Engineers, is a great hall-church veiled in Perpendicular tracery, executed in *chunam*. Like the tower of St Thomas's Cathedral, Bombay, it was still essentially 'Gothick' in spirit – until the original steeple was replaced in 1934 with a tower modelled on Canterbury's Bell Harry. Henry Conybeare, son of the Dean of Llandaff, attained Ecclesiological exactitude on a considerable scale in the Early English mode for the Afghan church.

From the 1840s it was the norm for the Anglo-Indian church builder to follow the precedent set by the revivers of the many permutations of Gothic at home. Most usually, fervent ethical principle – and imperialism – rather than practicality, recommended the translation to India of the great expanse of glass that was the principal characteristic of British Perpendicular Gothic. Other mediaeval styles, weightier than Gothic, served for momentous exercises such as the Mutiny Memorial Church at Kanpur – or the last garrison church built in New Delhi by Lutyens' associate, Arthur Shoosmith, strongly reminiscent of, but even more



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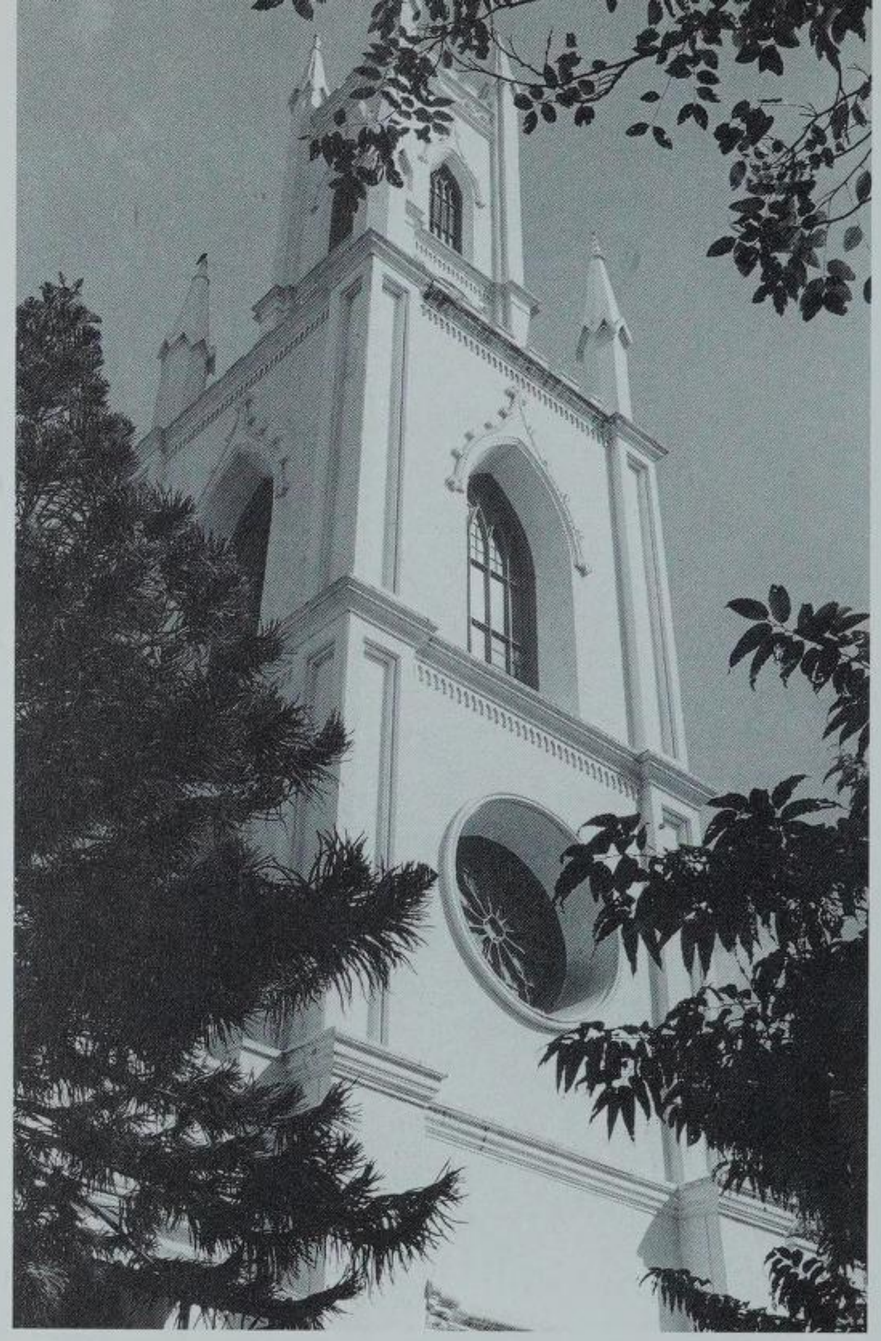


327 (a)

326. Calcutta, St. Paul's Cathedral.

327. Bombay, St Thomas's Cathedral: **(a)** west front tower; **(b)** choir.

austere than, fortified Albi. Gothic spread from ecclesiastic to public works via school and college which, if often the prerogative of the Church, were also the responsibility of government. For Queen's College Varanasi, to cite but one of many collegiate examples, Major Markham Kittoe of the Bengal Engineers transplanted to the shores of the holy Ganges, a rather less 'Gothick' Perpendicular than that devised by Major Forbes for Calcutta – and one which doubtless proved even less practical too.[20]

The Italian Gothic preferred by Ruskin for secular works, and applied most influentially to public buildings at home by Scott and Street in particular, was seen to be well adapted to the conditions of India – not without some controversy. After numerous essays in northern styles, the masterly 'Venetian'
53 designs sent out by Sir George Gilbert Scott for Bombay University were decisive. Scott's contribution to the complex, built between 1869–74, included the central quadrangle flanked by the convocation hall and library. The former is eclipsed by the latter in significance as the Venetian motifs of deep arcaded galleries and open spiral staircases came to the fore. Both were overshadowed by the splendid Rajabai tower, for which Scott incorporated Indian figures and decorative

327 (b)

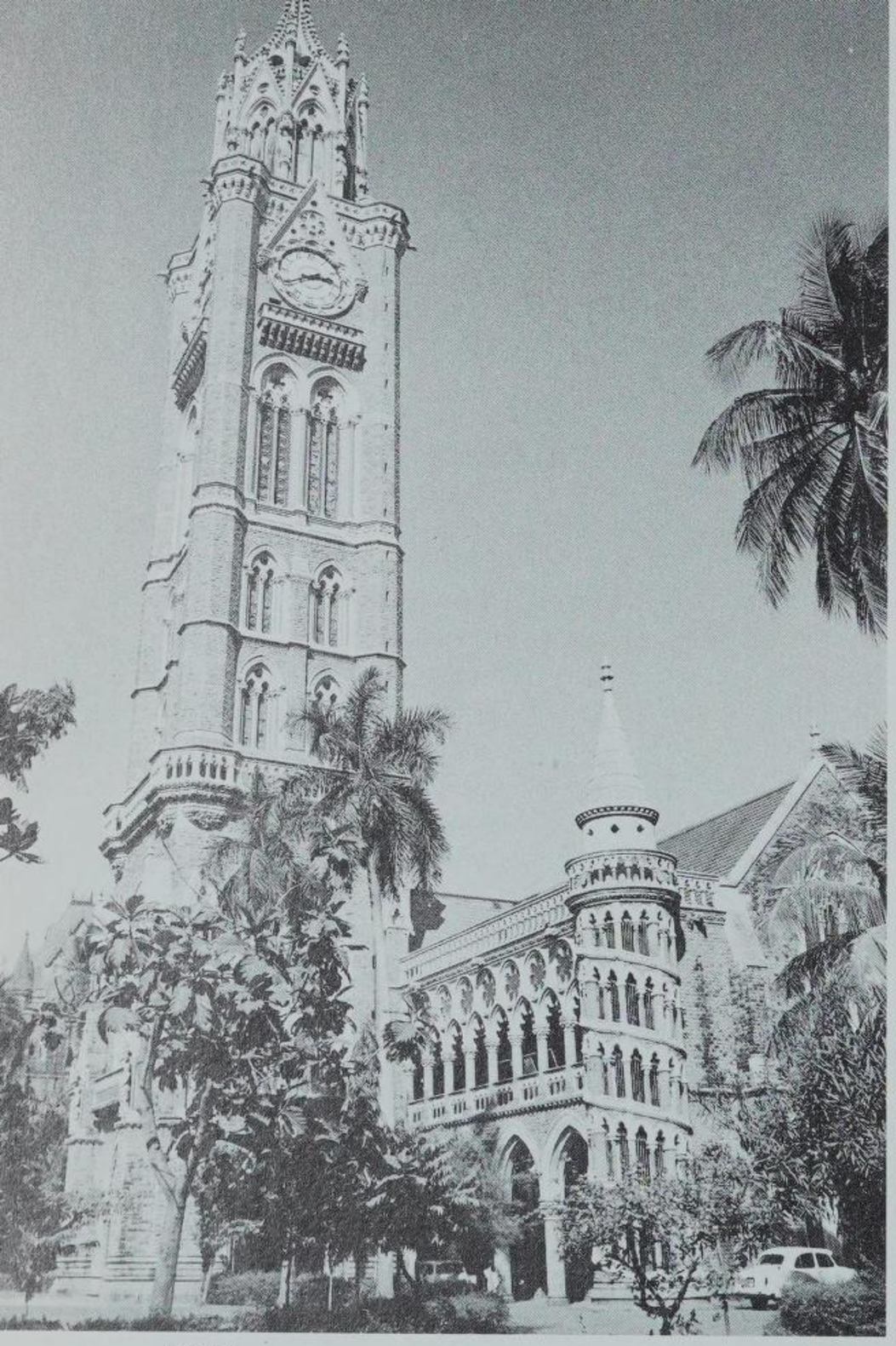
328. Bombay, St John's 'Afghan' Church: choir.

detail in a scheme based on Giotto's uncompleted Florentine masterpiece. These works demonstrated how singularly appropriate to a great eastern mercantile city were the late mediaeval southern styles with their deep shaded loggias, love of colour and convoluted forms and how readily those convoluted forms accommodated Indian figures and decorative details at the hands of the Indian masons employed to carve them.

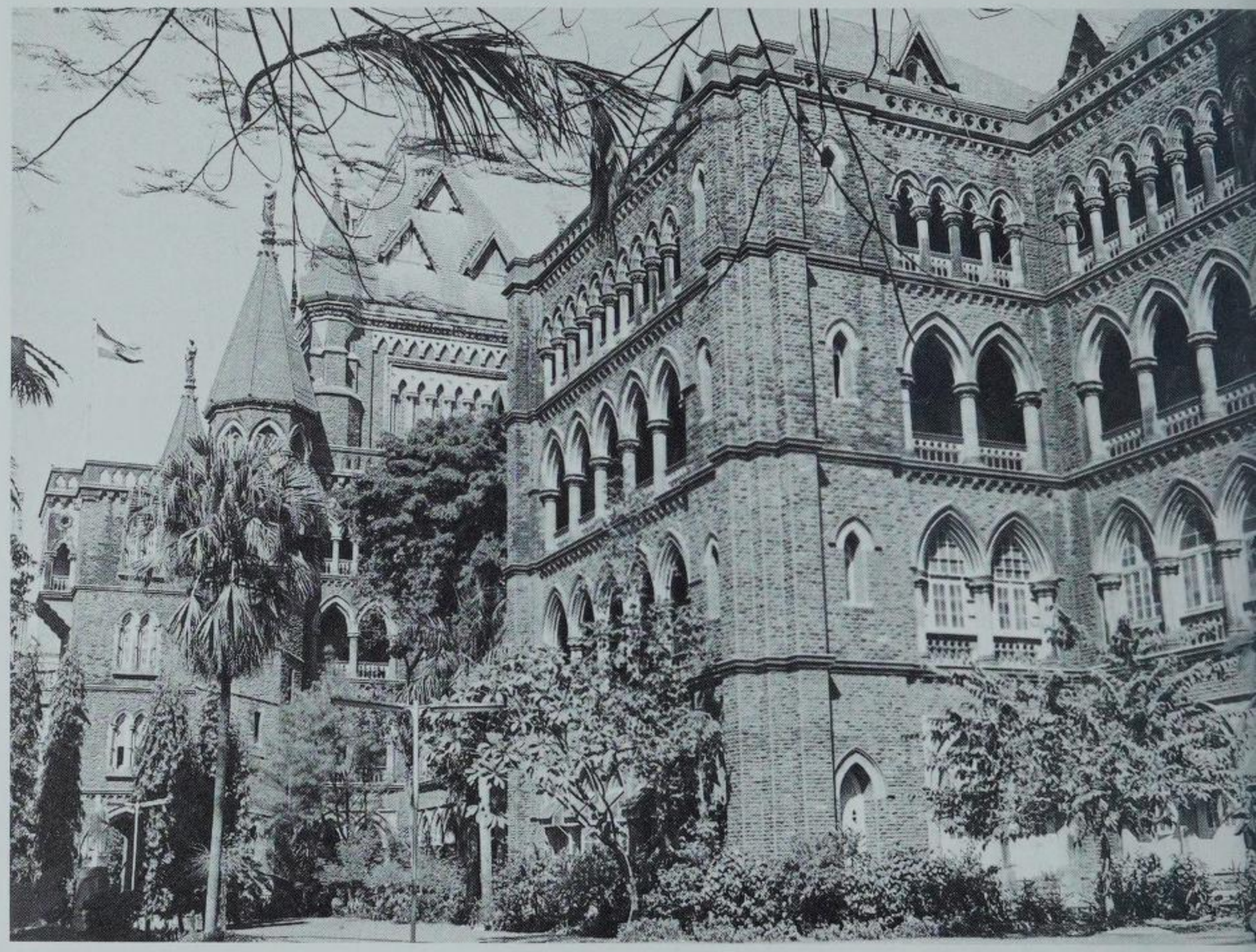
In the prevailing eclecticism of the age, English design reformers, disgusted with the regurgitation of the classical and mediaeval styles of Europe's past as the individual architect thought fit for his particular purpose, had turned back to the native vernacular traditions and produced the so-called 'Free-Style', hybrid but non-historicist and of little interest to Anglo-Indians. On the other hand, the hybrid aspect of the style Scott devised for Bombay, though still essentially foreign and historicist, was a crucial pointer for Anglo-Indian public builders away from a narrow cultural chauvinism towards Indian traditions. To that extent, it was reformative. However, the synthesis that the Anglo-Indians were to evolve, far from rejecting overt allusion to the monumental styles of the past, added a resounding new dimension to historicist eclecticism in a truly imperial style which reached its apotheosis in New Delhi.

These developments may be traced primarily in the great

329. Varanasi, Queen's College: entrance front.



330 (a)



330 (b)

public building campaign launched in Bombay in the second half of the 1860s by the energetic Governor, Sir Bartle Frere – of which Scott's buildings were so significant a product. The campaign opened with the Decorated Gothic scheme for the rebuilding of St Thomas's Cathedral by the Government Architect, James Trubshawe. This was only partially realized, but Trubshawe made a weighty contribution, in collaboration with W. Paris, in the General Post and Telegraph Office of 1872. Of other landmarks produced by the campaign, William Emerson's Crawford Markets – in an elementary northern Gothic delineated in the various coloured stones which contributed so much to the success of the Gothic Revival in Bombay – reflected the ideals of the early design reformers at home more nearly than any other prominent Anglo-Indian building of the period. For the Public Works Secretariat, Colonel Henry St Clair Wilkins, Royal Engineers, followed Scott's lead with a Venetian Gothic design in 1877 and his colleague Colonel John Fuller mixed Venetian and Early

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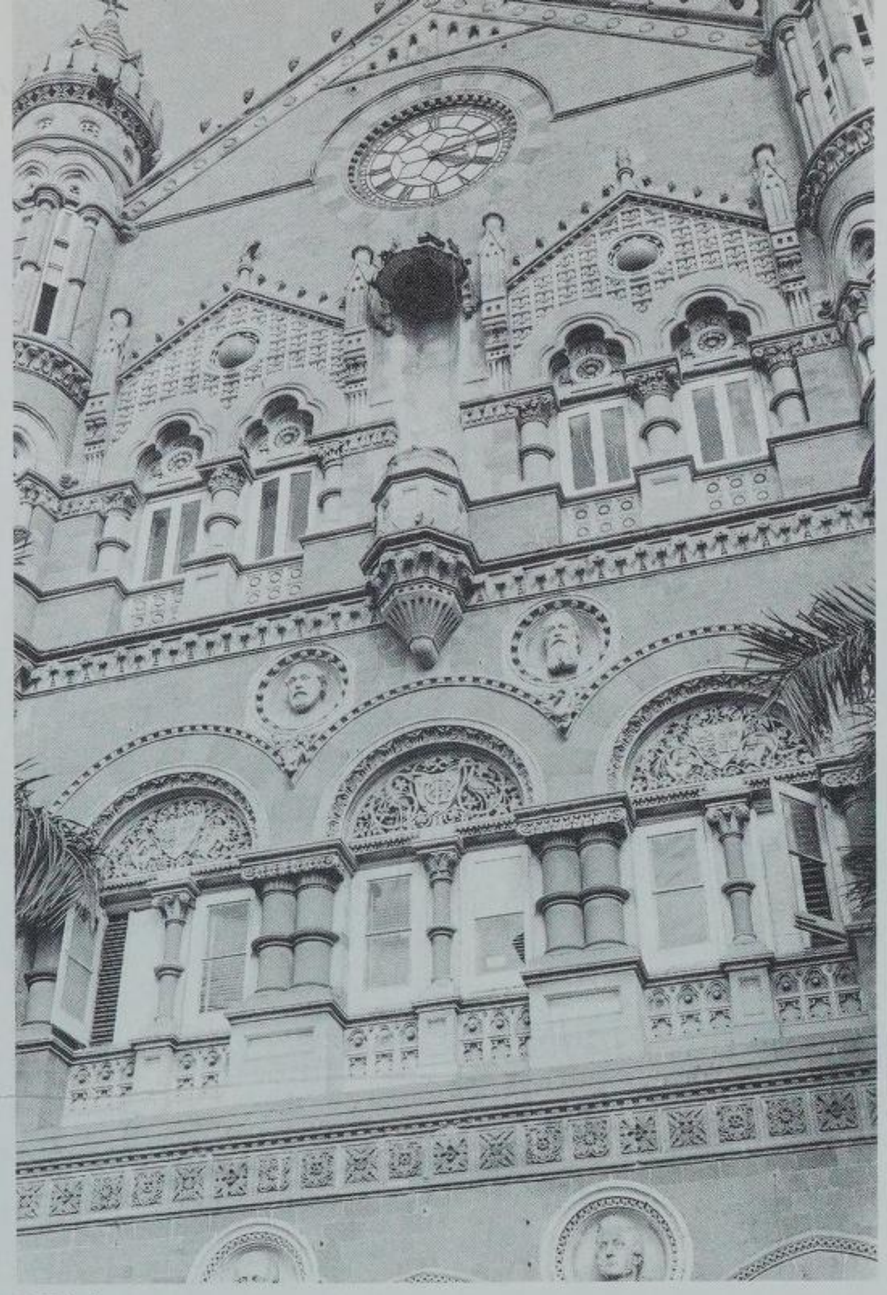
330. Bombay, maidan, east side: **(a)** University, Convocation Hall and Rajabai Tower; **(b)** High Court.

331. Bombay, Crawford Markets.

332. Bombay railway buildings: **(a)** Victoria Terminus, detail of central frontispiece; **(b)** Bombay, Baroda and Central Indian Railway Headquarters.



332 (a)

332 (b)

English for the stupendous High Court of 1879. The culminating masterpieces of the series, increasingly hybrid in style, are Frederick Stevens' works, especially Victoria 50
Terminus (1878–87), the headquarters of the Great Indian Peninsular Railway. This certainly rivals London's St Pancras in *élan*, but is more specifically indebted to Scott's symmetrical scheme for the Government Offices in Whitehall (1856), with its open forecourt flanked by three-storey turreted wings, and the German Houses of Parliament, Berlin (1872) with its innovative dome. Like Scott's University buildings, the Venetian Gothic of Stevens' splendid terminus is infused with Indian decorative elements.

Stevens was also responsible for the municipal buildings built in 1893 opposite Victoria Terminus and for the slightly later Bombay, Baroda and Central Indian Railway terminus at Churchgate. In these works he took a still more significant step towards the synthesis of Indian and European forms with the incorporation of cusped arches and Deccani Muslim domes. Following the example, George Wittet achieved a thoroughgoing Anglo-Indian synthesis for the Prince of Wales Museum in 1905 and the Gateway of India some twenty-two years later. The Museum, Classical in plan and purpose, prefers a full-blooded Adil Shahi revival, with its central pavilion modelled on the Gol Gumbad at Bijapur. The Gateway is Neo-Ahmad Shah, but recalls the Roman form of triumphal arch as much as Ahmadabad's Tin Darwaza, and substitutes a Bijapuri central space for the trabeated one provided by the Gujarati builders.

While the attention of Scott and his Bombay followers was focused on Venice, the Government Architect Walter Granville ruptured the Classical decorum of Calcutta with an excursion into the arena favoured by Street at home and based his High Court (1872) on the Cloth Hall at Ypres. Before the decade was out he showed his versatility – not only at turning a corner – in the splendid General Post Office which, if Classical in the purity of its forms, is certainly Baroque in scale and movement. For the Victoria Memorial 54
at the other end of the Maidan, William Emerson embarked upon a quixotic attempt to rival the Taj Mahal. It was built of a similar luscious material but the alien forms, extruded from post-Bramante schemes for St Peter's, Rome, hover between Mannerist and Baroque.

The potential of so-called 'Indo-Saracenic' hybridization, at best for generating tension, at least for spinning mesmerizing fantasy, was exploited all over the Subcontinent. Outstanding examples are W. Brunton's bold reconciliation of Saracen castle and mosque for the fortified railway station at Lahore, Samuel Swinton Jacob's cross-fertilization of the English quadrangle with the Mughal court of audience for St John's College, Agra, Robert Chisholm's Bizantino-Qutb Shahi University Senate House, Madras, and the stupefying *mélange* of Gothic and various permutations of the styles perpetrated by the late Deccani Muslims with which Henry

333. Bombay, Prince of Wales Museum: entrance front from south-east.

334. Bombay, Gateway of India.

333

334

337 (a)

335

335. Calcutta, General Post Office: early-20th century view.

336. Calcutta, Victoria Memorial: north front.

337. Madras **(a)** Chepauk Palace; **(b)** University Senate House.

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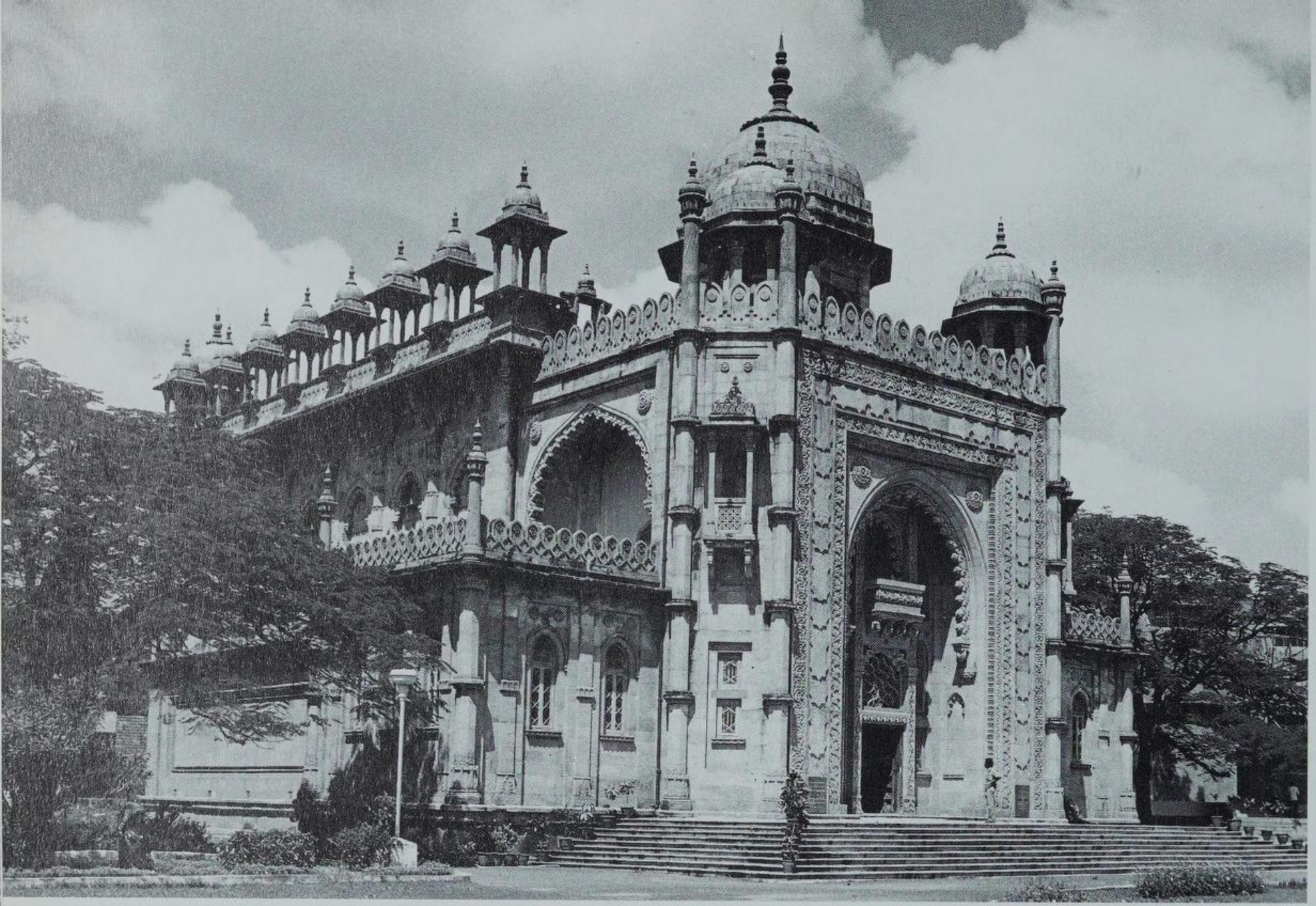
337 (b)



338. Madras, Victoria Memorial Hall (National Museum).

339. Madras, High Court from south-east shortly after completion with Doric lighthouse of 1894 foreground.

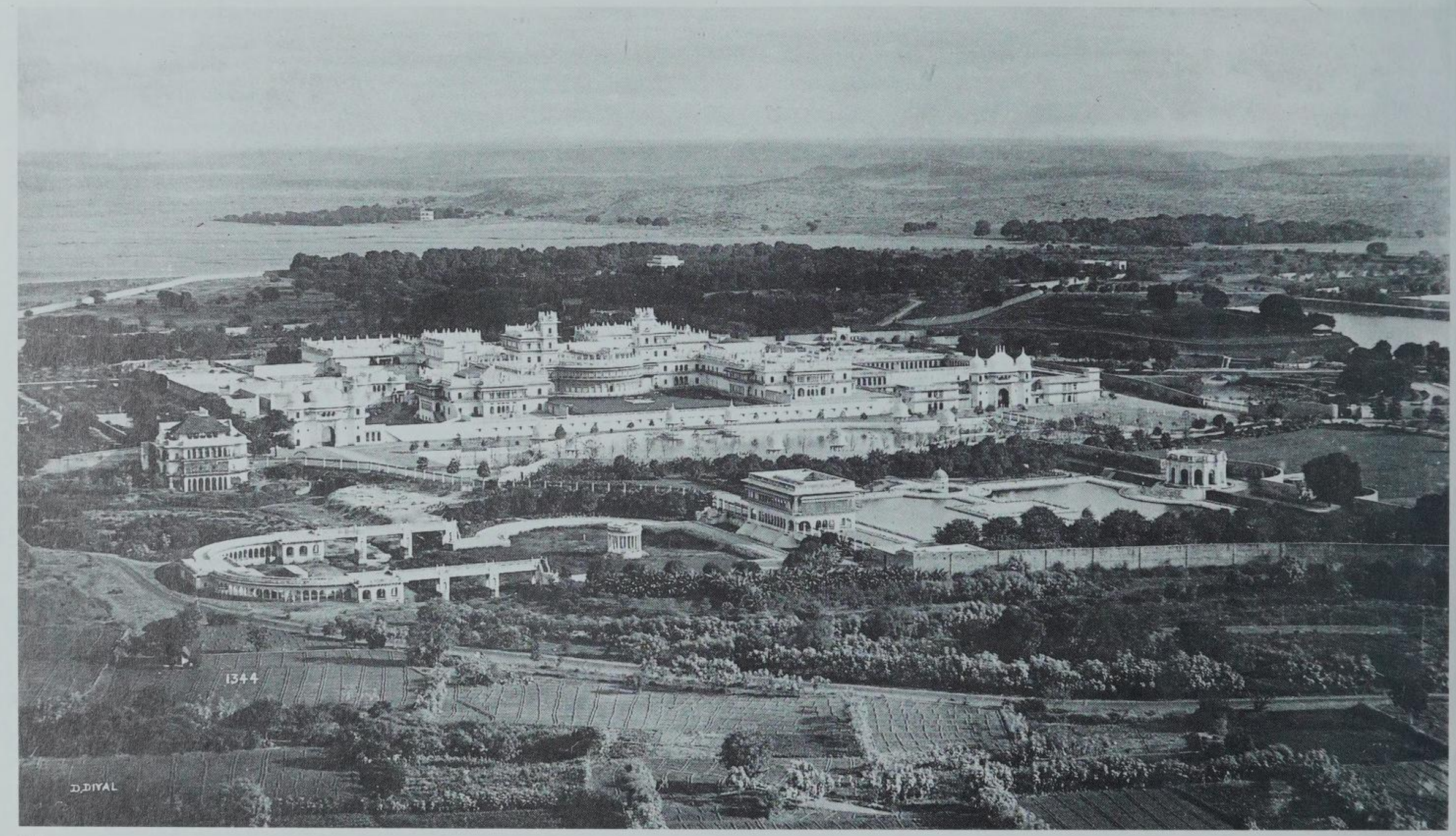
340. Calcutta, Marble Palace: great court and *iwan*.

Irwin followed it for the Madras High Court. Chisholm may lay claim to primacy in the late-19th century hybrid school for his work on the conversion of the already 'Indo-Saracenic' mid-18th century Chepauk Palace, former residence of the Nawab of the Carnatic, for the Madras Public Works Department.

Like the Government Houses of British territories, the early seats of British power at the courts of indigenous rulers – such as the Residencies of Lucknow, Hyderabad and Bangalore – were modelled on the 'stately home' to which the gentleman Resident would have been accustomed in Britain. Many European merchants aped such works, often on a lavish scale quite out of proportion with their status at home. In Calcutta and Madras such are the mansions and
51(b) club houses of Chowringhi and Adyar, respectively, with their high ceilings and verandahs. Native merchants went even further with their houses. Most spectacular by far, is the
52(a) Zimindari Mullick's 'Marble Palace' in Calcutta, with its astonishing classical interpretation of *iwan* and court.

On a still larger and often even coarser scale native rulers adopted western palace types in whole or in part, with state rooms incorporating antechambers, salons, banqueting halls and vast saloon-like *durbar* halls, designed to cater for Westernized manners and European guests. It was certainly not lost upon the 'Model Prince' that European building types could be interpreted in a wide diversity of western, eastern and hybrid styles and at their service the fecundity of the Anglo-Indian imagination was to know no bounds.

Notable examples of princely residences in styles derived from the repertory of Italianate Classicism range from the 'Palladian' Faluknama of Hyderabad, taken over from a nobleman and expanded by the Nizam in the last decades of the century – which belongs to the type represented by Government House Triplicane – to the Neo-High Renaissance palace of Cooch Behar and the Neo-Baroque one at Panna. Most notorious is the Jai Vilas commissioned by the Maharaja of Gwalior from Lieutenant Colonel Sir Michael Filose, Indian Army, to provide for the visit of the Prince of Wales. With the fantastic 'La Martinière' not far off at Lucknow to emulate, Filose's achievement was prodigious. The style might be called 'Venetian High Renaissance', though it hardly recalls the sage deployment of the Venetian motif by Palladio or Sansovino. Rather it suggests the infinite expansion of a Bibiena stage set and to illuminate the prince's visit the *durbar* hall required the largest pair of chandeliers ever made.



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Equally popular with their highnesses, predictably, was 'Rajput Revival'. The palaces of Alwa or Varanasi, where major building campaigns originated early in the 19th century, provide two of the many links between the two great periods of princely building. The main compound of the Udai Vilas at Dungapur falls into the same category but late in the century the court was paved and a tower pavilion constructed which, as at Datia, provides a perfectly formal re-statement of the *prasada* prototype. A similar model *prasada* provides the main tower of the accomplished new palace, built early in the 20th century by Jaisalmir's Maharawal Salivahan: the 'Rajput Revival' presides over a 'Saracenic' arcade with attached debased Corinthian columns. Far purer – 'academic' if that word were admissible in the context – are the great symmetrical piles produced for Bikaner and Kotah by the master of the style, Sir Samuel Swinton Jacob. *52(b)*

Many other princes preferred the more daring Eurasian hybrid styles being developed in the public buildings of the last decades of the 19th century. At the turn of the century, the Maharaja of Mysore called upon Henry Irwin for an extravaganza that ceded nothing in scale or prolixity to that master's masterpiece in Madras. Irwin's mentor, Robert Chisholm, was employed by the Gaekwar of Baroda to complete his Lakshmi Vilas. This had been begun in the late 1870s by Major Charles Mant, Royal Engineers, fresh from his triumph in the service of another Maratha prince at Kolharpur. The latter work was a dazzling asymmetrical composition combining late Mughal and Deccani Muslim arcades and domes with Gujarati trabeation. In the confection at Baroda, ironically enough in the Gujarati seat of the Protector of the Sacred Cows, it is the Bengali and Deccani Muslim elements of the late Mughal style which predominate.[21]

Considerable irony might well be seen in the conspicuous consumption of the riches of a fabulous mercantile empire on buildings which enshrined the abstract principles of the 'Rule of Law', the 'Progress of Industrialized Society' and the 'Model Ruler'. Quite contrary was the Spartan accommodation of the majority of the officials who actually governed it. They lived in the ubiquitous bungalow whose origins in the simple

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341. Gwalior, Jai Vilas.

342. Dungarpur, Udai Vilas: *prasada* in central court.

343. Mysore, City Palace: *durbar* court front.

344. Baroda, Lakshmi Vilas.

345. Madras: senior government officer's bungalow (Rutland House, Spur Tank Road).

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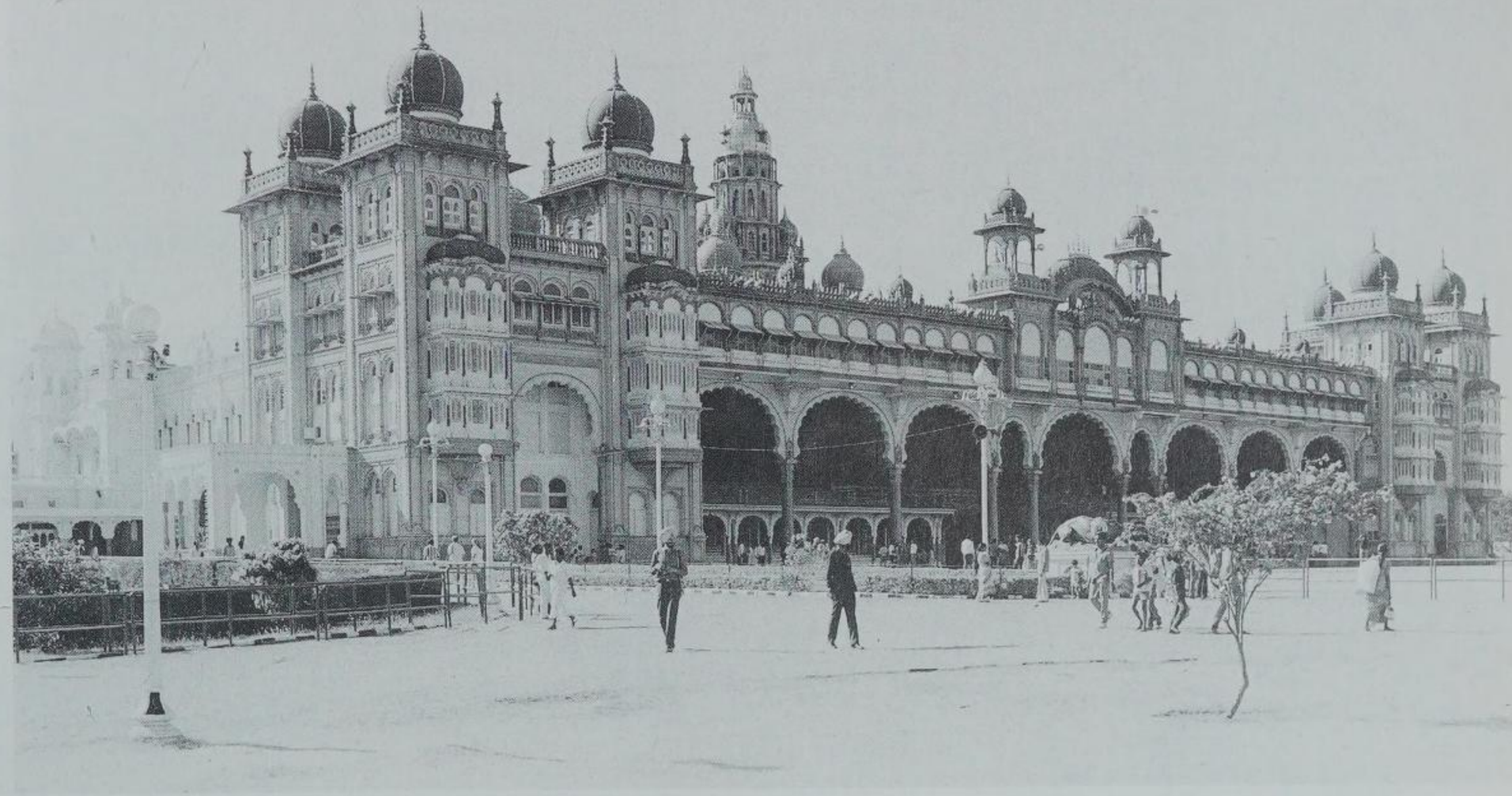

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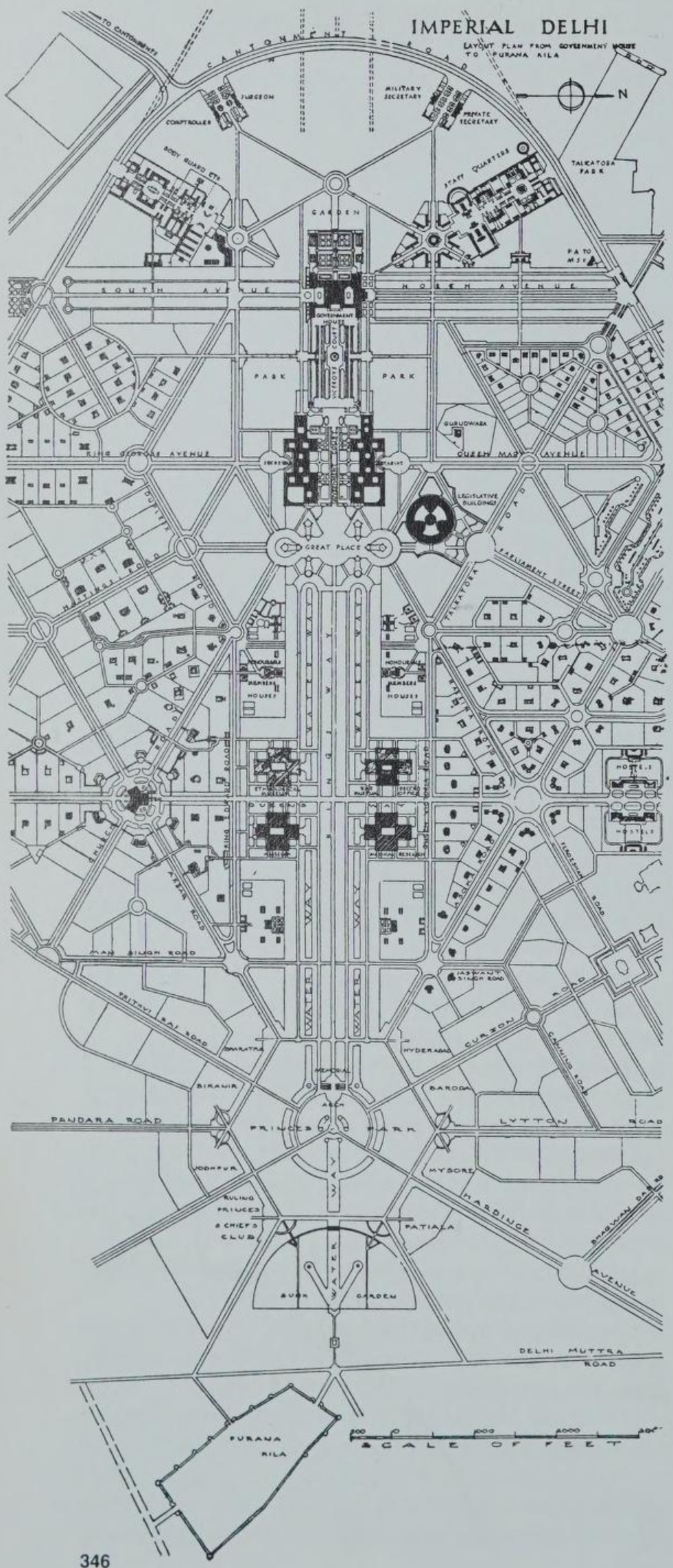
double-roofed hut of Bengal did not preclude its expansion in size and complexity on a scale ascending strictly in accordance with the gradations of their hierarchically ordered service. An essential ingredient was the Classical portico, extended to form the sun-shielding verandah in more elevated permutations, asserting the dignity of the ruler without ostentation. *51(a)*

This modesty is equally well illustrated by the Viceroy's seat – for half the year – at Simla. Here the informal clutter of a minor English seaside resort sprawls between the quaint little reproduction of a rural parish church and the pseudo-Elizabethan great house – like that of some newly-rich northern industrialist at home. How very different was to be the last capital of British India laid out from 1913 by Sir Edwin Lutyens in collaboration with Sir Herbert Baker, who was fresh from his imperious triumph at Pretoria.[22]

King George V proclaimed the transfer of the capital from Calcutta to Delhi at the climax of the 1911 Imperial Durbar. New Delhi was inaugurated early in 1931. Like Calcutta, it was stamped with the hallmark of authority and like most other seats of British power in India it stood apart from its Indian predecessors. This was contrary to the original intention. The prevailing enthusiasm of Anglo-Indian imperial designers for the synthesis of eastern and western styles



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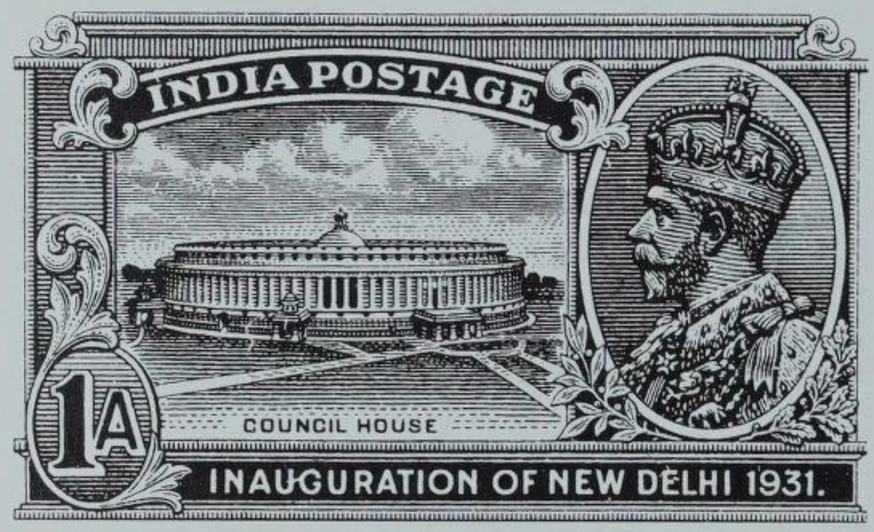

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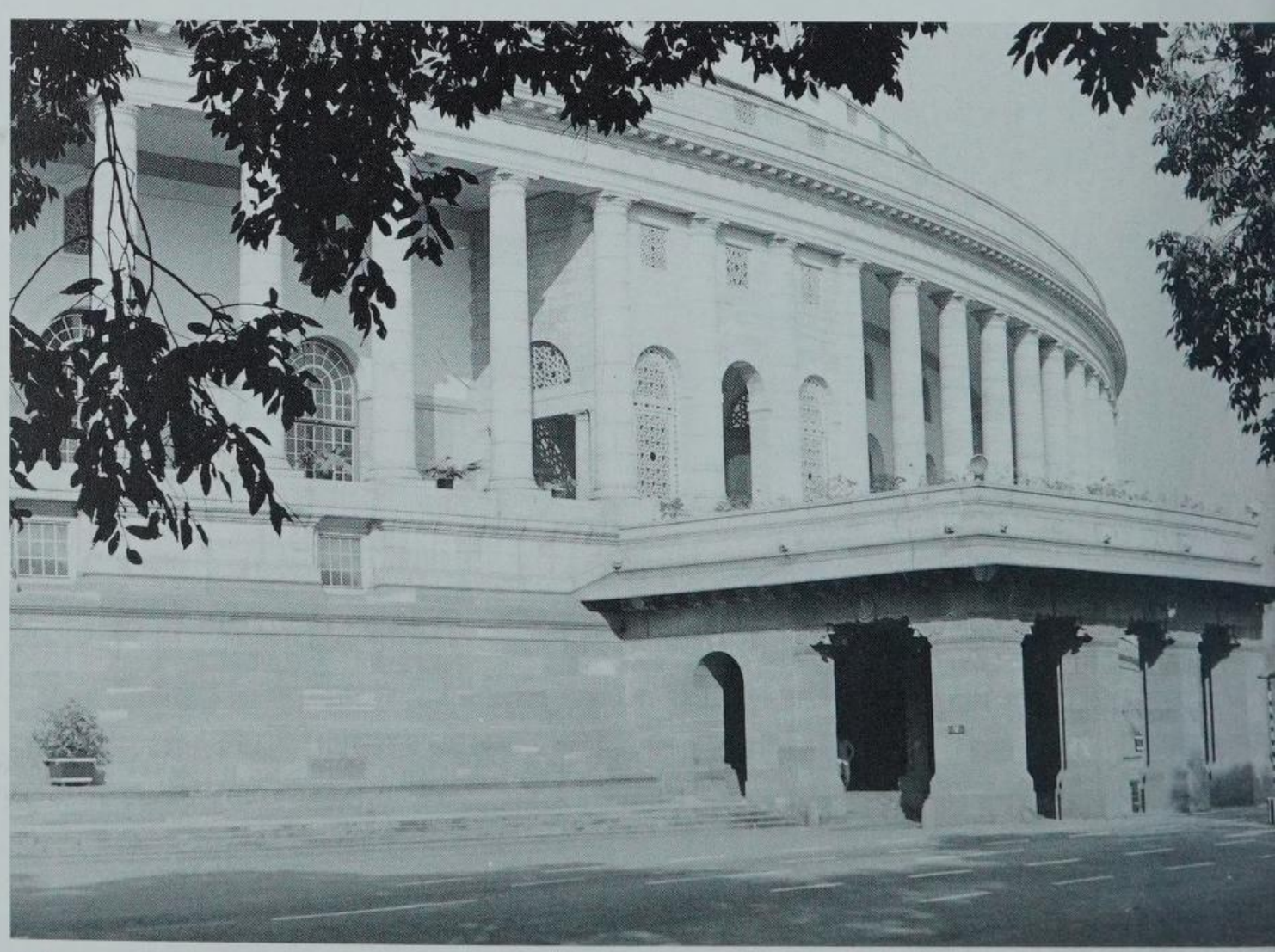

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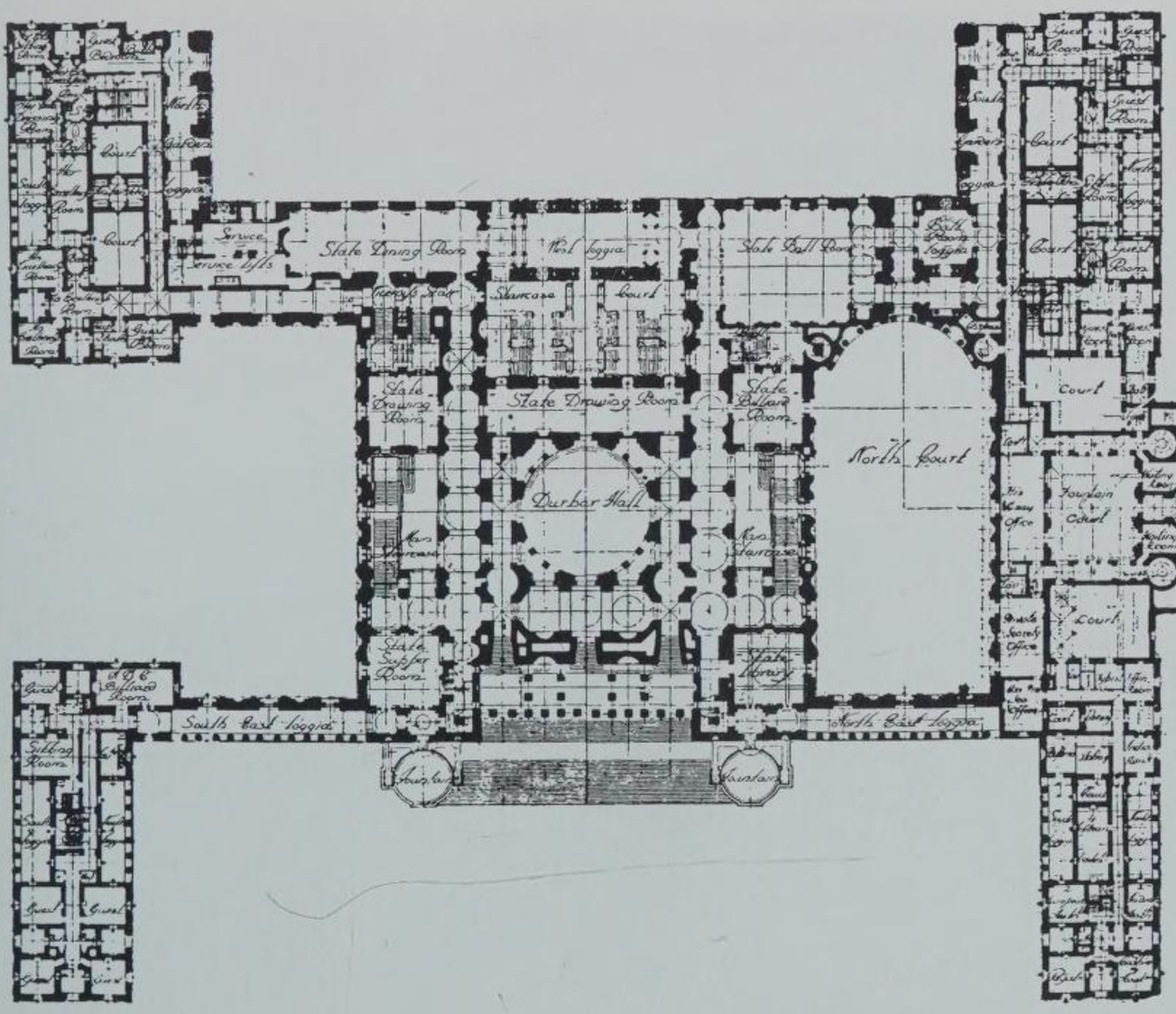
346. New Delhi, plan (1:20000).

347. New Delhi, commemorative stamps: **(a)** India Gate; **(b)** Parliament.

348. New Delhi, Parliament: entrance portico.

349 (a)



quailed before the problem of assimilating an urban order, devised in accordance with the principles of the modern English Garden City, and the vital chaos of Shahjahanabad: the latter seemed to be the very embodiment of all the evils of *laissez-faire* growth that the formulators of the Garden City movement most specifically deplored.

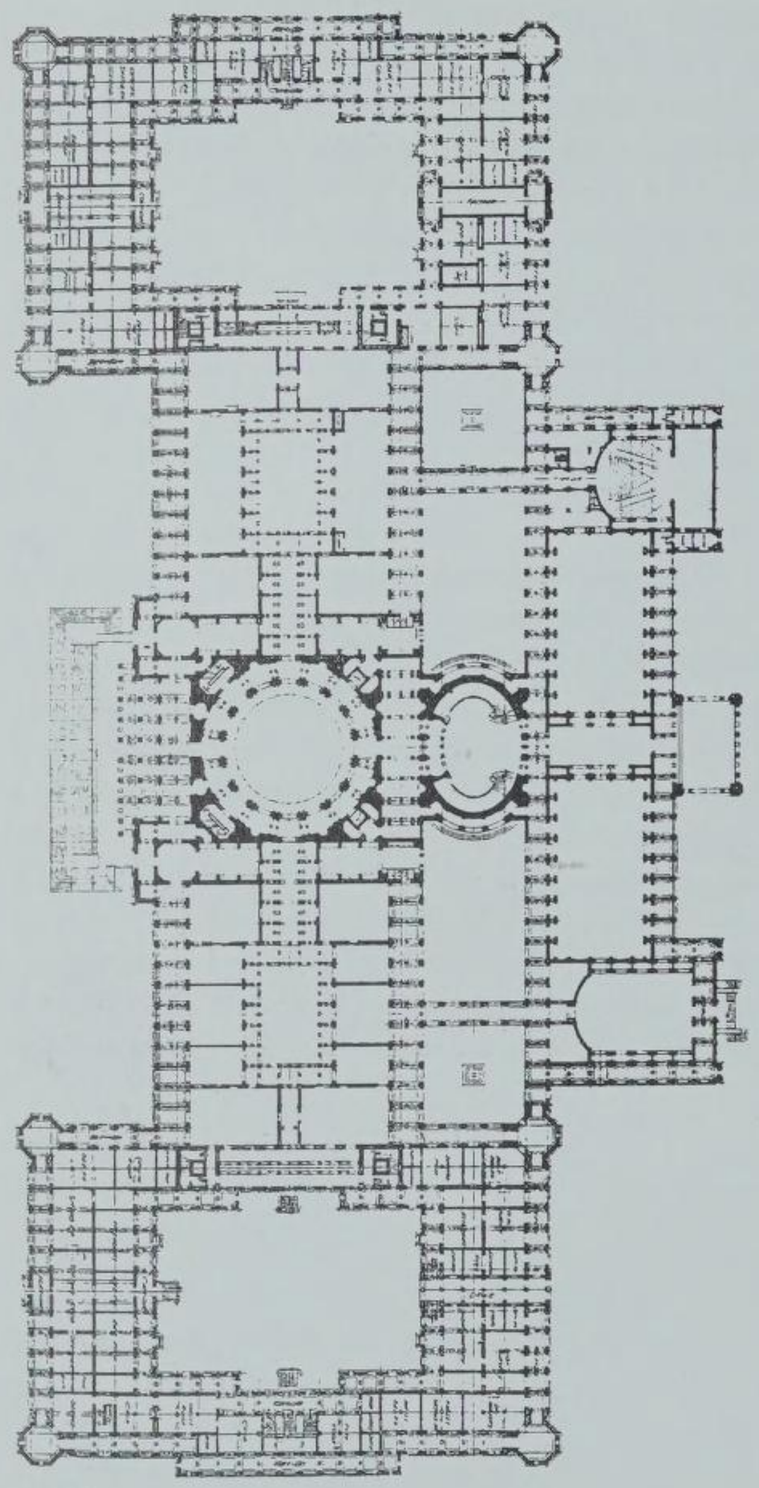
An equilateral triangle is defined by the ceremonial, administrative and commercial centres of the new metropolis. The commercial centre in the north forms the apex. Rajpath, the east-west axis of power, provides their base. The north-east diagonal serves the Law; the north-west diagonal by-passes the cathedral and the originally unforeseen Parliament. Rajpath is aligned with the entrance to the Purana Qila. It runs through the India Gate War Memorial and the portal buildings of Baker's Secretariat, from the *chattri* in which the city's founder, the King-Emperor, stood in imperial majesty to the *durbar* hall of the house where his Viceroy sat.

Lutyens had arrived in India to undertake this great work with scant respect for the Subcontinent's architectural legacy, and his views grew only the more derogatory with first-hand familiarity – especially with the Anglo-Indian Imperial hybrids developed by his immediate predecessors, but also with the traditions of 'veneered joinery' from which those hybrids were drawn. Many Europeans in India agreed. The Viceroy, Lord Hardinge, however, asserted that the new capital was

349 (c)

349 (b)

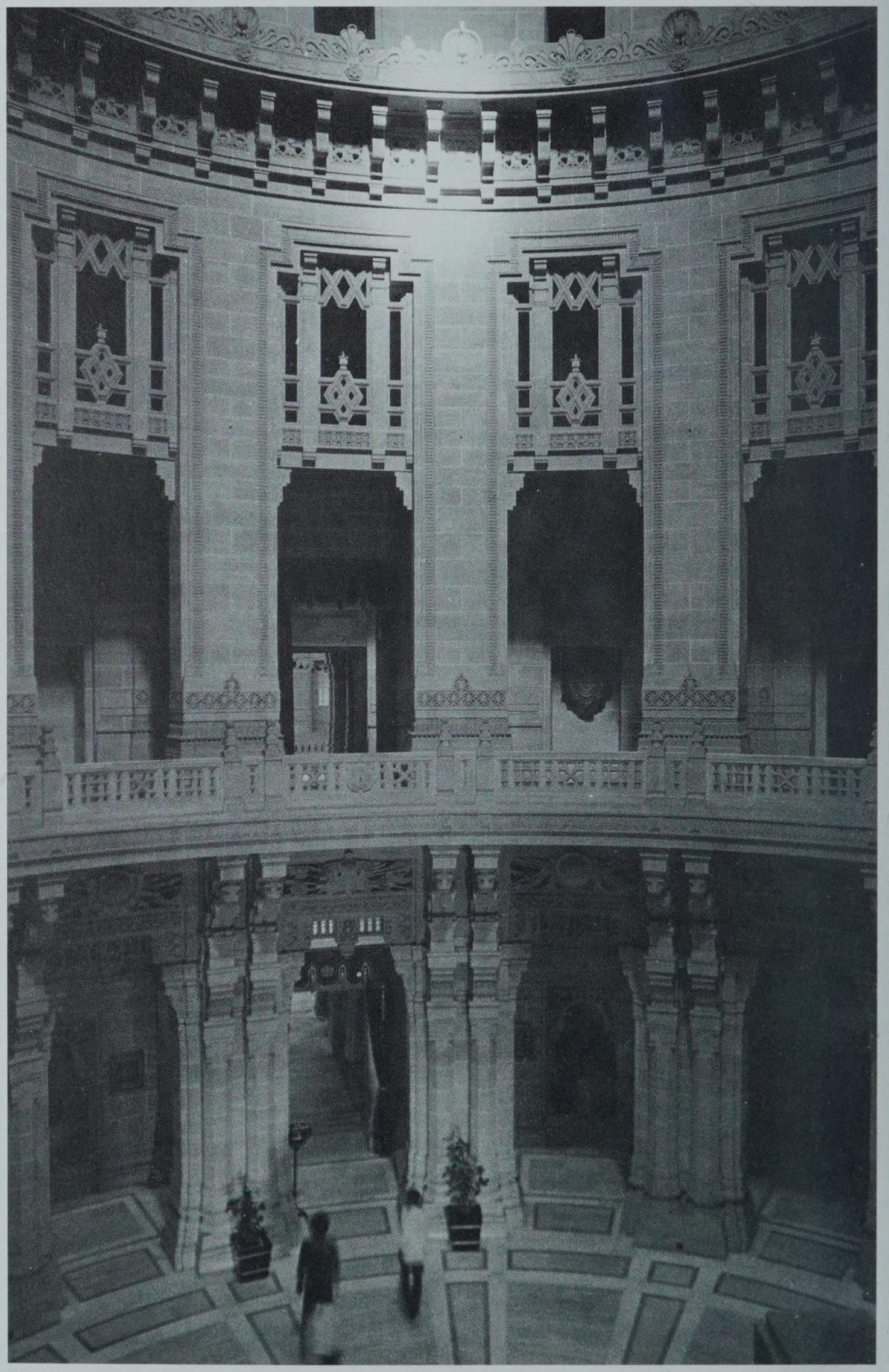
349. New Delhi, Viceroy's House: **(a)** plan (1:1500); **(b)** east entrance front; **(c)** south approach.



350 (a)

being built for a joint British-Indian administration and must symbolize reciprocity between the British and the Indians of all creeds. In his *Indian Architecture* of 1913, E.B. Havell pointed to the example of Akbar and maintained that, through architecture, enlightened patronage could reconcile racial and religious differences. The king pronounced in favour of India, preferring the Mughal style. Lutyens conceded that indigenous decorative motifs might be used 'within reason', their luxuriance providing a foil for Classical order.

55(b) Centred on the great circular *durbar* hall, the Viceroy's House is clearly a revision of its Calcutta predecessor. Both have a ceremonial core and four satellite blocks of living and office quarters, though in Delhi the western ones containing the Viceregal and state guest apartments are linked to the centre not by loggias but by the major suite of reception rooms. Apart from the English country house derivation of the plan and the Pantheon ancestry of the *durbar* hall,



350 (b)

350 (c)

Lutyens' imperial eclecticism ranged from Wren's St Stephen's Walbrook (for the Viceroy's library) to the
55(b) Mahastupa at Sanchi (for the central cupola) and the *chahar bagh*. On the way he took in the ubiquitous Indian c*hattri* and *chadya*, cross-fertilized acanthus and volute with *padma* and bell for his Order and tethered Indian elephants at salient portal corners where the great ancient Mesopotamian monarchies had ceremonial syncretic winged monsters. Baker was equally liberal with his Indian motifs in the
55(a) Secretariats and the massive, strangely unassertive, circular Parliament building, but Lutyens thought him singularly insensitive to the spirit of the scheme as a whole in the angle at which he set Rajpath's ascent between the Secretariats to the plane of the Viceroy's House.

Elsewhere the later official builders of the British Raj rejected the effulgent fantasy of their predecessors in favour of a simpler Classicism. However, just as the Viceroys' residence in Calcutta had set a standard to be emulated by the 'Model Princes' of the 19th century the challenge of Lutyens' great work was taken up in the 1920s and 1930s by the most ambitious of their heirs. There were occasional excursions into the style of the moment, like Lakhdiraj of Morvi's Art Deco work of 1931, but quite outstanding is the new palace of Maharaja Umaid Singh at Jodhpur – embarked upon with princely irony at once as a measure of famine relief and to outdo the Viceroy in Delhi. [23]

The architects of the Umaid Bhavan were H.V. Lanchester and T.A. Lodge, whose municipal achievements in Britain's richest cities had originally recommended their practice for the great Delhi commission itself. Centered on a vast circular hall like the Viceroy's house, Jodhpur's principal audience and reception suites are entered from the east – in accordance with tradition. Courts for the staff and the *rawala* are disposed to the north and south respectively, the latter addressing an enclosed garden and the expansive view. Whereas Lutyens drew formal authority somewhat incongruously – if persuasively – from Sanchi, Lanchester's great dome, with its unusually vigorous projections and recessions,is generically appropriate in reflecting our earliest image of the palace of the Gods. With its roots in the ancient indigenous palace tradition and accommodating Art Deco private apartments within a resounding Edwardian baroque pile whose almost entirely trabeated ordonnance manages to recall something of the early Pratiharas, despite rather Islamic *brises-soleil*, this building could hardly provide a more fitting conclusion to our survey and it was completed in 1947, just as it attained redundancy with the emergence of the new India.

350. Jodhpur, Umaid Bhavan: **(a)** plan (1:1500); **(b)** entrance front; **(c)** central hall.

Glossary

A century ago Fergusson sagely observed that 'one of the great difficulties that meets every one attempting to write on Indian subjects at the present day is to know how to spell Indian proper names... An attempt is now being made to form out of the ordinary English alphabet a more extended one, by accents over the vowels, and dots under the consonants, and other devices, so that every letter of the Devanagari or Arabic alphabets shall have an exact English equivalent in this one... In attempting to print Sanskrit or Persian books in Roman characters, such a system is indispensable, but if used for printing Indian names in English books, intended principally for the use of Englishmen, it seems to me to add not only immensely to the repulsiveness of the subject, but to lead to the most ludicrous of mistakes. According to this alphabet for instance, "d" with a dot under it represents a consonant we pronounce as "r"; but as not one educated Englishman in 10,000 is aware of this fact, he reads such words... as if spelt literally with a "d". A hundred years hence, when Sanskrit and Indian alphabets are taught in all schools in England, it may be otherwise, but in the present state of knowledge on the subject some simpler plan seems more expedient'.

Sadly, one hundred years on, Sanskrit and Indian alphabets are still not taught in English schools, and though this book is not intended solely for English people, the problem is general for the general English reader. Like Fergusson therefore – but unlike Harle or the Huntingtons who provide excellent guides to accenting in their important recent 'overviews' of art and architecture in pre-Muslim India – I have retained the traditional anglicizing conventions for the spelling of Indian words retained and I have adopted the Indian National Atlas spelling of place names. To do otherwise would have further distanced the general reader from material already difficult enough to access.

As to the use of Indian terms, the treatises (*shastras*) on architecture provide one for every part of a building including all its decorative details, and these offer a shorthand which undoubtedly facilitates the writing of Indian architectural history – but not its reading. Moreover, some of the terms are problematical. At the risk of seeming inconsistent, when there is an adequate English equivalent I have adopted it, but when the vernacular term enshrines special symbolic significance I have retained it. As we shall see, for instance, the classical European cyma recta, torus and astragal may be equated with *padma*, *kumbha* and *karnaka* but the latter carry the additional significance of their symbolic associations with the lotus, the water pot and the tortoise, and it would seem inconsistent to use 'vase' or 'bowl' or 'pitcher' for *kalasha*, 'Bowl of Plenty' for *purna-kalasha*, 'Productive Couple' for *mithuna*, etc. Likewise, *mulaprasada* and *vimana* reflect the origin of the northern and southern cella forms in the primitive multi-storey palace and monastery and, therefore, have a crucial layer of meaning beyond cella. *Garbha-griha* and *ghana-dvara* mean more than 'sanctum' and 'aedicule' that is only awkwardly conveyed by the literal English 'womb-chamber' and 'blind door', etc.

adhisthana: Dravidian term for base or socle composed of a series of mouldings including (in ascending order) *upana* (low slab plinth), *jagati* (more elevated plinth), *kumuda* or *kumbha*, (torus either semicircular – *vritta*, or chamfered – *tri-patta*), *kantha* (recessed band), *pattika* (projecting coping slab), or *kapota* (overhanging eave-like cornice)
ashrama: monastic retreat
amalaka: stylized fruit associated with regeneration
antarala: passage or vestibule before the sanctuary; see also *mandapa*
apadana: (Persian) hypostyle hall, usually square in plan, with portico to one or more sides
apsaras: celestial dancing girl
avarana-devata: attendant or subsidiary deity
avatar: incarnation

bagh: (Arabic/Persian) garden, usually formal as in *chahar bagh*, quadripartite garden
bangaldar: Bengali bowed roof
baradari: pillared pavilion (in principle with twelve pillars)
baraka: 'benign influence', grace
bhadra: central projection to the mass, hence *bhadraka*, pillars square in section but with graded rectangular projections

bhakti: devotion to a personal god
bhavana: hall
Bhumija: temple superstructure (*shikhara* q.v.) composed of superimposed rows of miniature shrine motifs between vertical bands
bodhisattva: a previous incarnation of the Buddha, a compassionate spirit
brahmin: priestly caste

chaitya: sacred spot or object, shrine, *stupa* q.v.
chadar: sloping, textured water shoot
chadya: awning, eave
chahar bagh: see *bagh*
chakra: wheel
chakravartin: universal emperor
chankama: promenade
chattra: honorific parasol, hence *chattri*, canopy or kiosk
chihil sutun: (Persian) forty-columned pavilion or hall
chou-chala: Bengali hipped roof; see also *do-chala*
chowk: palace court

dargah: (Persian) precinct, especially shrine of holy man
darwaza: (Persian) door, gate or portal, especially of monumental proportions
daulat khana: (Persian) 'abode of majesty', king's palace enclosure
deva-koshtha: aedicule enshrining *avarana-devata* q.v.
dharma (Pali *dhamma*): law, doctrine, rightousness, function; hence, e.g. *Dharmachakra* (Buddhist 'Wheel of Law'), *dharmaraja* (righteous king) and *dharma-stambha* (Pillar of the Law)
dhvaja: standard, banner or flag, hence *dhvaja-stambha,* flag-staff
Dikpala: regent of the cardinal directions of space, hence *ashta-dikpalas*, regents of the eight directions of space
diwan: (Persian) royal court or audience place, hence *diwan-i-am* (for public audience), *diwan-i-khas* (for private audience)
do-chala: Bengali pitched roof; see also *chou-chala*
durbar: (Persian) royal assembly
dvara: door, hence *dvara-palas,* door-keepers

gandharva: heavenly attendant, defender and musician
garbha-griha: literally 'womb chamber', inner sanctum of temple
gavaksha: lunette or horseshoe-shaped window or gable (loosely called *'chaitya dormer'*)
ghana-dvara: false or blind door framing *parshva-dvarta* q.v.
gopura: gatehouse to temple
gumpha: Orissan term for *lenya* q.v.

hamam: (Arabic) bath of the Turkish or Roman type
hamsa: goose
haram: (Arabic) forbidden, hence *haram sara,* exclusive palace compound for the royal women (as *zenana* q.v.)
hasht behisht: (Persian) literally 'eight paradises', octagonal palace pavilion, usually with alternating iwans (q.v.) and chambers to its sides
haveli: mansion, merchant's house
hazar sutun: (Persian) 'Thousand-pillared hall'

imam: (Arabic) Muslim leader
iwan: (Arabic) vaulted hall or recess opening off court

jala: net, hence *jalaka*, grilled or screened window, and *jali,* lattice or filigree-patterned screen
jami-masjid: Friday or congregational mosque; see *masjid*

kalasha: water pitcher, vase
kapota: eave-like cornice
karma: the wages of former deeds – merit or de-merit
karnaka: pointed astragal moulding
khanqah: (Arabic) hermitage or retreat
khura: 'hoof', slab sometimes with curved shoulder
kirttimukha: 'Face of Glory', grotesque mask also called *grasamukha,* protector of worshiper from evil
kumbha: bulbous water pot, and derivative torus moulding
kumuda: torus, either semi-circular or chamfered (alternative term for *kumbha*, especially in the South)
kuta: square or circular shrine

lata: creeper, hence *patra-lata*, scroll of *padma* (q.v.) origin and patterned vertical band of temple superstructure
Latina: type of northern *shikhara* (q.v.) with single 'sugar-loaf' mass
lenya: excavated temple or monastery, loosely called 'cave temple', see also *gumpha*
linga: emblem, phallic emblem, most common symbol of Shiva

madrasa: (Arabic) reading place, school of Islam associated with a mosque
makara: crocodile-like monster, *vahana* (q.v.) of Varuna
maidan: open field before fort or palace, hence civic park
mandala: magical diagram; see also *vastu-purusha-mandala*
mandapa: hall or pillared pavilion of which the following are the most important types: *ardha-* (immediately before the sanctuary, when larger than an *antarala* q.v.), *gudha-* (walled), *kalyana-* (for ceremonial wedding of the god in the South), *maha-* (main element of a southern temple before the *vimana*, usually detached), *megha-* (multi-storey space of a Jaina temple), *mukha-* (portico when larger than a *praggriva* q.v.), *ranga-* (open hypostyle, often detached and usually *navaranga* q.v.), *sabha-* (for assembly, equivalent to *maha* and usually *ranga*)
mantra: magical formula, incantation

masjid: (Arabic) mosque, hence *jami-masjid*, Friday mosque, and *nagina-masjid*, 'jewel-mosque', palatine chapel
merlon: raised masonry part of battlement affording protection
mihrab: (Arabic) niche in main wall of mosque marking direction of Mecca (*qibla* q.v.)
minbar: (Arabic) pulpit
minaret: (Arabic *minar*) mosque tower for calling Muslims to prayer, often erected as monument
mithuna (adj. *maithuna*): sexual intercourse or 'loving couple'
moksha: liberation or release
mudra: sign, hand gesture conveying state of mind or attitude, particularly important in Buddhist iconography. The principal ones are: *abhaya*, with the right hand held palm out, the fingers pointing up, signifying protection or reassurance; *anjali*, with the two hands held together upright before the chest, signifying respect and greeting; *bhumisparsha*, with the right hand reaching towards the earth palm down or touching the base of the throne on which the figure is seated, signifying the Buddha's invocation of the earth spirits to witness his Enlightenment; *dharmachakra*, with both hands held together chest high by the standing figure, the fingers of one often forming a circle against those of the other signifying preaching, especially the Buddha's first sermon — the 'Setting of the Wheel of the Law in Motion'; *dhyana*, with the right hand resting palm up on the left in the lap of the seated figure signifying meditation; *varada*, with either hand reaching down palm out, signifying offering and sometimes actually holding an offering
mukta-sara: pearl garland
mukti: salvation
mulaprasada: main block of temple containing shrine (see also *vimana*)
muqarnas: (Arabic) multiple miniature squinch forms making 'honeycomb' pattern

naga: fabulous serpent
nagina-masjid: literally 'jewel mosque', the name given to the palatine chapel of the *haram sara* in Mughal palaces; see also *masjid*
nasika: blind *gavaksha* q.v. motif, usually small-scale, except for the *maha-nasikas* gables on the *bhadras* q.v.
naubat khana: (Arabic/Persian) place for beating drums to mark the hours and important court events
navaranga: nine-square
nirandhara: without enclosed ambulatory, see also *sandhara*

padma: lotus and derivative cyma recta or reversa moulding
pancha-yatana: five-shrine temple complex
parivara: subsidiary or attendant deity, hence *parivaralaya*, shrine for an attendant deity
parivartana: the rotation of a square on its centre for the fixing of its angles at equidistant points on the circumference of the circle so described to produce the stellate plan
parshva-devata: accessory aspect of the deity accommodated in the *ghana-dvaras*
patra-lata: scroll or creeper moulding
Phamsana: stepped pyramidal type of roof
pitha: plinth or socle composed of a series of mouldings including (in ascending order) *bhitta* (slab-like plinth), *jadyakumbha* (inverted cyma band), *karnaka* (pointed astragal), *antarapatta* (recessed band), *kapotali* or *kapotika* (hood, cyma cornice), and various friezes including *ashva* (horse), *gaja* (elephant), *grasa* (*kirttimukha*), *nara* (human), *simha* (lion)
pradakshina-patha: circumambulatory path or passage around a shrine
praggriva: distylar porch
prakara: wall and enclosure of temple compound
prasada: multi-storey structure, mansion, palace or temple
pratiratha: projection to the temple mass, see *ratha*
puja: worship
purna-kalasha: 'bowl of plenty'

qibla: (Arabic) axis of prayer, wall of mosque facing Mecca
qubba: (Arabic) domed cubical structure, open to each side

raja: ruler
rang-mahal: literally means painted palace but used in general as pleasure palace
ratha: temple chariot, sometimes used for shrine
rathika: niche or aedicule
rauza: mortuary complex of tomb and funerary mosque in a compound
rawala: womens' quarters in palace, equivalent to *zenana*
rekha deul: Orissan term for temple with *shikhara* (q.v.) of unbroken curvilinear profile, hence corresponding to Latina

sabha: assembly
Samvarana: pyramidal hall roof with tiers of bell-shaped mouldings
sandhara: with enclosed ambulatory, see *nirandhara*
sangha: order of monks, especially Buddhist, hence *sangharama* (abode of the Buddhist order, monastery)
sannyasin: wandering holyman
shah: (Persian) king, but used in general to convey exaltedness
sheikh: (Arabic) elder, chief, holyman, descendant of the companions of the Prophet
Sekhari: type of northern superstructure (*shikhara* q.v.) with half and quarter *shikhara* forms clustered about the dominant central member
serdab: subterranean room
shakti: active or imminent aspect of deity personified as consort
shala: oblong shrine with barrel-vaulted roof and several finials

shardula: leogryph
shastra: traditional science, theoretical treatise
shish-mahal: palatial bath house, often with mirror mosaic
shikhara: northern temple superstructure, crowning 'cupola' of southern works
shilpin: craftsman
shukanasa: gable-like element incorporating blind *gavaksha* projecting from superstructure over *praggriva* or *antarala* of a temple
simha: lion
squinch: arch across corner to effect transition from polygon to circle, usually to support dome
stambha: pillar, post or column
stupa: tumulus, burial or reliquary mound
sufi: Muslim mystic or hermit

svastika: cross in fragmentary squares, symbol of solar movement

talar: (Persian) multi-columned portico or reception pavilion backed by a wall
tirtha: literally 'fording place', place of spiritual regeneration, temple, hence Tirthankara, 'ford-maker'
torana: ceremonial portal or portal motif

ulema: (Arabic) members of the clergy specifically knowledgable of Islam

vahana: vehicle or mount of god
vandalamalika: flying 'arch' of 'caterpillar' (*ilika*) or wave (*andola*) form thrown between pillars
varandika: entablature consisting of *antarapatta*, *kapotali* (see *pitha*) and *chadya* (q.v.)
vastu: residence, hence *vastushastra*, traditional science of architecture and *vastu-purusha-mandala*: diagram for the residence of the Purusha, the formula for sacred building
vedi: balustrade or parapet wall; see *vedika*
vedibandha: podium to wall consisting of a series of mouldings including in ascending order *khura* ('hoof', slab sometimes with curved shoulder), *kumbha* (pot), *kalasha* (vase or pitcher), *antarapatta* (recessed band), *kapotali* (cyma cornice)
vedika: railing, especially of sacred enclosure
veyaddi: altar table
vihara: residential quarters of monastery
vimana: storeyed building with receding terraces, used in South for main element of sanctuary (equivalent to northern *mulaprasada*)
vritta: circular, hence *vrittasamsthanaka*, circular or stellate plan and *vrittayata*, apsidal
vyala: lion, leopard

yajna: sacrifice
yaksha, yakshini: masculine and feminine tree spirits
yashti: shaft or mast
yoga: yoke, mystical discipline or training
yogini: 'working energy' subservient to *shakti*
yoni: female generative organ
yupa: sacrificial post

zenana: (Persian) enclosed accommodation for women, see also *rawala*

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Specialized works are listed at the head of the relevant section of the notes below. General works listed above are referred to in the notes by name of main author.

Abbreviations:
A.S.I.: *Archaeological Survey of India*.
E.H.T.A.: Dhaky and Meister (eds.), *Encyclopaedia of Hindu Temple Architecture*.
S.I.T.A.: Chandra, P. (ed.), Studies in Indian Temple Architecture.

Prologue: Early India

The Indus Valley Civilization (page 1)

1. The excavation of the Indus Valley sites was begun by the Archaeological Survey of India under the direction of Sir J. Marshall in the 1920s and furthered by Sir R.E.M. Wheeler in the 1940s. See:
Allchin, B. and R., *The Rise of Civilization in India and Pakistan*, Cambridge 1982;
Dikshit, K.N., *Prehistoric Civilization of the Indus Valley*, Madras 1973;
Fairservis, W.A., *The Roots of Ancient India, Archaeology of Early Indian Civilization*, Chicago 1975;
Marshall, J., *Mohenjo-Daro and the Indus Civilization*, London 1931, Delhi 1973;
Possehl, G.L., *Ancient Cities of the Indus*, Durham 1979.
Wheeler, Sir R.E.M., *The Indus Civilization*, Cambridge 1953, 1960, 1968.
Indus Valley seals have been recovered from the stratum of a Sumerian site dated to the second half of the 3rd millennium B.C., providing proof of contact between the two civilizations and a guide to dating the Indus sites.

The Vedic and Native Traditions (page 2)

2. Kramrisch, *Hindu Temple*, provides indispensable (but often excruciating) guidance in tracing the Vedic origins of Hindu practice. As she points out, it is possible that the original victim of the sacrifice (*yajna*) at the altar (*Agni*) through fire (*agni*) was man and that animals – the horse, bull, sheep and goat – were his later surrogates.
At least as elevated as the Aryan, the native tradition in which worship (*puja*) and devotion (*bhakti*) are crucial, has not survived in a form as impressive as the Vedas, but many are committed to the idea of a lost corpus. Coomaraswamy, *Yaksas*, provides indispensable (and admirably lucid) guidance in tracing the native origins of much that became central to Buddhist and Hindu practice.
Chaitya may derive from the Sanskrit *chita* (mound or pyre).

3. *The Rig Veda* was probably compiled from material already archaic when the tribes were establishing themselves in the Doab during the second half of the 2nd millennium B.C., and was transmitted orally until the development of the Sanskrit script about 700 B.C. See Macnicol.

4. The term 'Water Cosmology' is Coomaraswamy's (*Yaskas*). 'The Vital Essence' of the Waters is *Rasa*, Cosmic Order is *Rita*, the Ideal Heavenly King is Dharmaraja (from *raja*, king and *dharma*, law or righteousness).

5. Irwin, J., 'Asokan Pillars: A Reassessment of the Evidence' in *Burlington Magazine* nos 848 (11/1973), 861 (12/1974), 871 (10/1975) and 884 (11/1976), recounts the significance of Indra's pole (*yashti*) as Axis Mundi (*Skambha*) and standard (*dhvaja*). The ritual through which the re-erected *yashti* mystically became Indra's *skambha* was central to the ceremony of reconsecration in which the king was mystically reborn with the vitality of Indra, just as Indra's own consecration as King of the Gods depended on his original cosmic act.

As the king's *yashti* was synonymous with Indra's *Skambha*, so the *dharma* of the king's realm was synonymous with the *Dharma* of the universe. *Rajadharma*, thus related to realm and universe identified and the ideal of the *Dharmaraja* embraced both: this – as we have seen it embodied in Varuna – identified justice and prosperity; the falling of the rains was held to be directly dependent on the earthly king's virtue. To it the king was elevated at his consecration in purification and invigoration sacrifices – originally to Varuna – and absolution and rejuvenation rites, performed periodically throughout his reign, sustained him in it. An indeterminate moral imperium to which territorial ambition was supposedly irrelevant, it carried the title of *Samraj* or *Chakravartin*, 'Universal Sovereign' or 'Governor of the Cosmic Cycle'. Of all the rites associated with this ideal, the most potent was the horse sacrifice (*ashvamedha*). A consecrated horse (originally Varuna's) was sacrificed after having roamed freely in assertion of the sacrificer's dominion. The idea was to identify the realm of the *Dharmaraja* and ritually consign it to him, but the temporal implications were inescapable and promoted endless dynastic rivalry. See:

Aiyanger, K.V.R., *Rajadharma*, Adyar 1941;

Drekmeier, C., *Kingship and Community in Early India*, Stanford 1962;

Gonda, J., *Ancient Indian Kingship from the Religious Point of View*, Leiden 1966.

As we shall see, throughout the history of India's indigenous architectural tradition, Indra's standard and 'Water Cosmology' symbolism provided the essential motifs, not merely for the embellishment of buildings, but for the articulation of their meaning.

Religious Developments and the Formula for Sacred Building (page 4)

6. Kramrisch, *Hindu Temple*, relates the construction of the altar as prescribed in the *Shatapatha Brahmana*: after ritual delineation, purification and insemination of the sacrificial ground (*vedi*), the erection of a railing (*vedika*) to protect it, the construction of a sanctum (*prachinavamsha-shala*) and the laying in it of square and circular hearths – representing heaven and earth – the sacrificer (*yajamana*) constructs the *Agni* on a square using his body as measure, the number of the structural elements according with those solar and lunar cycles. Fire is transferred from the original hearths to the womb (*garbha*) of *agni* placed over the navel (*nabhi*) as the source of life. A golden figurine (representing man as surrogate for the Purusha), and the remains of a horse, a bull, a ram and a goat (man's successive surrogates) are incorporated in the foundations. The golden figurine, on a lotus leaf (earth) and a gold disc (the sun), is surmounted by naturally perforated stones (providing for ascent) and accompanied by a tortoise (representing the stability of heaven and earth) on a lotus flower (the universe). See also below, section 2, notes 4 and 6.

In figure 5 the diagram is the *Paramashayika Mandala* of 81 squares, the product of later elaboration on which see below, page 39ff. The Purusha's head is in the north-east, the zone of Agni between the cardinals held by Surya (east) and Soma (north) – considered the most auspicious intermediate zone. See Kramrish, *op.cit.*, pages 29ff and 85ff. The reproduction here conforms to the conventional north at the head of the page.

Village, Town and Fort (page 7)

7. The *Ramayana* and *Mahabharata*, composed before the middle of the last millennium B.C., are invaluable for tracing the emergence of the social and political formulae which were to remain fundamental to the Indian tradition until the advent of invaders from the west in comparatively recent times. On the Buddhist *Jatakas* and the Hindu *Puranas* see notes 1.2 and 2.1 respectively.

The *Arthashastra* was probably written for Chandragupta in the last quarter of the 4th century B.C. See Shamasastry, R., *Kautilya's Arthashastra*, Mysore 1929.

The earliest treatises (*shastras*) on architecture, such as the key *Manasara* of the elusive Indian 'Vitruvius', date from well into the second half of the Christian era but they were compiled from material found in the commentaries on religious practice related to the Vedic canon. See Acharya.

The remains of the earliest Vedic shrine so far recovered, at Nagari near Chittor, are probably Shungan. They include a dais at the centre of a compound enclosed by a stone *vedika* and apsidal foundations suggesting that there may have been a pavilion (*yajna-shala*).

On the great Buddhist sites see below, page 19ff.

8. Coomaraswamy, *Palaces*, notes that *prasada* (Sanskrit) generally designates a mansion of several storeys supported on pillars, usually a palace, sometimes a monastery; *vimana*, a synonym of *prasada*, is a single building, usually a 'palace of the gods'. Both words are later associated with the principal structure of the temple, but *vimana* is specifically used for the southern type, assumed to 'petrify' the monastic *vihara* form of superimposed shrines surrounded by cell-bordered terraces. Sir A. Cunningham, *The Stupa at Bharhut*, London 1879, notes in connection with building types illustrated in the Bharhut reliefs (page 118): 'of palaces there is one specimen labelled *Vijayanta Prasada* which was the name of the Palace of the Devas in the Trayastrinshas Heavens' (our figure 12). See also Ray.

The constitution and design of the royal palace are prescribed, for instance, by Manasara (see Acharya *Manasara Series*, vol. 2), and Bana Bhatta in the *Harshacharita* demonstrates that the traditional zoning applied to the organization of the camp of King Harsha-vardhana in the 7th century A.D. (see Begde, P.V., *Forts*, page 34ff). Entrance was ideally from the east to a compound distributed north-south. Manasara specifies, incidentally, that the *prasada* of the heir to the throne should be beyond the king's compound.

1 Fourth Century B.C. – Fifth Century A.D.

Religious Developments (page 11)

1. Soul, to be found in the animate and inanimate, is naturally blissful, but polluting matter (*karma*) adheres to it as a result of action, especially violent action; the release of the soul from *karma* to the blissful inactivity of Nirvana requires complete balance and this can be achieved through a rigorous yoga in which 'non-violence' (*ahimsa*) is a cardinal requirement. The yoga was possible only for the monk but lay followers were encouraged and a special regimen was devised for them. In practice *ahimsa* made it difficult for agriculturalists to adhere, as they could hardly avoid killing, but members of the trading caste in the towns were enthusiastic followers of Mahavira as an opponent of entrenched Brahmanism.

Mahavira left no scripture and attempts at formulating a canon of doctrine some two hundred years after his death led to a schism between those who insisted on nudity (Digambaras) and those who permitted minimal clothing (Shvetambaras). The texts of the latter, much corrupted, were adopted at a general council at Valabhi in the 5th century A.D. Though Jainas were to be found all over India, they were never numerous and ultimately tended to concentrate in the south and north-west – The Digambaras around Mysore, the Shvetambaras in Rajasthan, Gujarat and Kathiawar, where they benefited from royal patronage under the Solankis. See below, page 112ff.

2. The Four Noble Truths: all existence is shackled to *samsara* by suffering (*dukha*); the cause is craving (*tanha*) in ignorance of the worthlessness of all in this transitory world, in mistaken belief in the existence of soul (*atman*); the removal of this cause (*nirodha*) is the elimination of ignorance and the extinction of *tanha*; the way to *nirodha*, effected through yoga, is the Middle Path between self-indulgence and self-mortification, the Noble Eight-fold Path of right views, right thoughts, right speech, right action, right means of livelihood, right exertion, right mindfulness and right meditation. The perfect follower (*arhant*) of the path achieves Nirvana – the definition of which was to be the cause of much dissension.

Buddha and his teachings are known only through disparate and dubious accounts of a tradition, probably established by the mid-3rd century B.C. but transmitted orally for many generations, codified for the sects into which its adherents had early begun to divide. Central to these, the 'Canon' (preserved primarily in the Pali language) comprises three *Pitakas* (collections): the *Dharmasutra* (discourses on dogma), the *Vinaya* (rules for monastic life) – both attributed to the Buddha himself – and the *Abhidharma* (analytical studies of the *sutras*). In addition there are miscellaneous works including the *Jataka* collection

of folk legends woven about the Buddha's temporal and spiritual lives and a supposed dialogue between the Bactrian King Menander (Milinda) and the sage Nagasena (*Milinda-Panha*, see below, note 16).

Glimpses of the Buddha given in the *sutras* were elaborated into the traditional biography: Siddhartha was born in the Lumbini grove outside his father's seat, Kapilavastu, usually identified with modern Piprahwa near Rummindei, as his mother was on her way to spend her confinement with her own family, the rulers of the rather more important Koliyas. Suddhodhana was told that Siddhartha would be a *chakravartin* or a *guru* (teacher) – the latter if he saw the old, the sick, the dead and a *sannyasin*. Consequently he was kept from the world in the luxury of the palace but sensitive, contemplative and inquisitive, he secretly sought out knowledge of the human condition. Familiar by the age of twenty-nine with the miseries of old age, sickness, and death he saw in the face of a *sannyasin* the solution to the problem of the human condition: renunciation of all worldly attachments in accordance with the ascetic ideal. His 'Great Renunciation' followed. He escaped with the aid of benign spirits in search of *moksha* through spiritual enlightenment. He turned to *brahmins* first but remained unenlightened. For six years he underwent extreme physical privation in the company of five ascetics, but still enlightenment eluded him until, on the point of death, he saw that undermining physical strength sapped mental energy, the only resource for achieving his goal – more, he saw that mortification was itself a form of bodily self-indulgence focusing attention on external form rather than internal essence. To the dismay of his companions he took food and sheltered under the pipal tree sacred to the renowned *yaksha* of a grove near Gaya – in modern Bihar, then Magadha. See Thomas, *Life of Buddha*.

Buddhism had the advantage over Jainism that nothing in its doctrines posed special difficulty to any particular way of life. At least two kings, Bimbisara of Magadha and Prasenajit of Kosala, saw in the *Sangha* a basis for unity in their domains and may well have been instrumental in effecting the transformation of the *Patimoksha* of the *Vinaya Pitaka* from a profession of intention by the individual monk to the instrument of communal order. The middle classes were attracted to a doctrine which challenged entrenched Brahmanism, denied the sanctity of caste divisions, was catholic in its appeal and dependent upon personal commitment and individual capacity.

3. The Buddha bequeathed neither scripture nor successor to whom problems in interpreting the *Dharma* might be referred. Indeed, confident in the power of the *Dharma*, convinced of the need for unconstrained personal commitment and dedicated to the ideal of spiritual independence, he could hardly have entertained the idea of institutionalized authority. At a great council, supposed to have been held at Rajagriha immediately after the *Mahaparinirvana* to define the doctrine and to settle the question of authority, the monks claiming highest spiritual attainment arrogated responsibility to themselves and declared that only *arhants* could achieve Nirvana, denying the aspirations of the laity – whose cause was doubtless early espoused by unorthodox sects. The tension generated by this increased as the *Sangha* expanded until breaking point was reached after a second great council, reputedly held at Vaishali in 386 B.C. to discuss disciplinary matters, and schism produced two distinct camps. The conservative, rigid, rational, restrictive, ascetic Theravadins (Ancients) held that Nirvana depended on complete renunciation of the ordinary concerns of this life and that Buddha, though of unique status, was human. The more liberal, mystical, lay-orientated Mahasanghikas (Members of the Great Council) held that the *arhant* ideal represented a self-centred denial of the universal compassion of the Buddha and that devotion (*bhakti*) was as important a means as yoga for the attainment of salvation. They began the elaboration of a metaphysical system admitting the miraculous and exalting the Buddha into a trans-terrestrial being, which was to lead to the 'Great Transformation'.

4. The responsibility for these developments remains obscure. From the broad division between Theravadins and Mahasanghikas some twenty Buddhist schools emerged in the last three or four centuries B.C., each with its monasteries elaborating distinct doctrinal positions in commentaries upon the *sultras*. The most important developments in doctrine concerned cosmology and the nature of the Buddha. If the primitive tradition was that of the Theravadins, the idea that Siddhartha Gautama was not unique and the compassionate ideal of the *bodhisattava* accord well with the Mahasanghika objective of undermining the exclusive position of the monk. But the doctrine of transference of merit seems first to occur in the writings of the Sarvastivadins who had emerged from the ranks of the Theravadins, established themselves at Mathura and expanded into the north-west under the patronage of the foreign Kushana dynasty, where they were open to the influence of Hellenistic ideas. The Sarvastivadins, too, formulated an important, if abstruse, resolution of the problem posed for the Mahayana by the Buddha's assertion that all is extinguished in Nirvana. Amongst others to attempt this, the great Madhyamika Sage Nagarjuna was responsible for taking the faith to southern India.

S.L. and J.C. Huntington in their splendid overview, *The Art of Ancient India*, and elsewhere, refer to recent reappraisals of the early development of Buddhism (pages 72ff, 113, 124, 627, 630). In particular they question the identification of an aniconic approach to art with the Hinayana and the association of the veneration of images of the Buddha with the Mahayana in the belief that the first such images were made under the Kushanas in the 2nd century A.D. They claim that 'Buddha images were made in the centuries prior to the Christian era' (pages 627, note 10) but can produce none earlier than the Bimaran reliquary which they date to the reign of the Shaka King Azes II (35 B.C.-1 A.D.). As suggested above, it is likely that the way to the 'Great Transformation' was taken earlier in Buddhist history than is often supposed, that the Hinayana and Mahayana developed in parallel. There seems to be no incontrovertible doctrinal evidence for associating aniconic attitudes with the Hinayana but a convincing explanation has yet to be found for the first appearance of images as late as the 1st century B.C., indeed a convincing argument has yet to be produced against associating the proliferation of Buddhist images with the gradual eclipse of the Hinayana after the infiltration of the Hellenistic anthropomorphism which accorded so well with the theism of the populist Mahayana schools. See:

Coomaraswamy, A.K., 'The Origin of the Buddha Image', *Art Bulletin* 12, 1927, reprinted Calcutta 1970;
Foucher, A., *L'Art Greco-Buddhique du Grandhara*, Paris 1905-18, 1951;
Lancaster, L.R., 'An Early Mahayana Sermon...' *Artibus Asiae* 36, no.4, 1974;
Schopen, G., 'Mahayana in Indian Inscriptions', *Indo-Iranian Journal* 21, 1979.
Snellgrove, L. (ed.), *The Image of the Buddha*, Tokyo, New York 1978.

On the *mudras* (hand gestures) which are so crucial to Buddhist iconography in conveying states of mind or attitudes, see glossary.

5. A sect devoted to Vasudeva was active at least by the 2nd century B.C., when the Bactrian ambassador to the Shunga court, Heliodorus, dedicated his column in one of their shrines at Besnagar (Vidisha) – a sect devoted to the fertility deity Pashupati-Shiva appears shortly after. Though their cults involved worship, not sacrifice, the deities seem awe-inspiring and condescending. As the seeds of compassion sown by the authors of the *Bhagavad-Gita* flourished at the hands of the Buddhists, the concept of the god-head evolved from the transcendent to the immanent through the intermediacy of the *shakti*.

On the Vidisha column see Irwin, J., 'The Heliodorus Pillar: A Fresh Appraisal' *AARP* 6, 1974. On this column and the Mauryan 'Pillars of the Law' see below page 17ff and section 1, note 12. Parts of a platform and *vedika* associated with the column, dedicated to Vasudeva, are all that remain of the earliest known proto-Hindu shrine. This shrine doubtless conformed to the type – itself related to the traditional forms depicted in the Buddhist reliefs – which provided a major motif for the coins of contemporary rulers, the cult object often being a *Shivalinga*. An elaborate Hindu development of this simple form is represented by the large terraced structure at Ahicchattra with a colossal *Shivalinga* on the upper plane.

The Pattern of Patronage (page 14)

Chattopadhyaya, S., *The Achaemenids and India*, Delhi 1974;
La Vallée-Poussin, L. de, *L'Inde aux temps des Mauryas*, Paris 1930;
Mookerji, R., *Asoka*, London 1928, 1955, Delhi 1962;

Nikantha Sastri, K.A., *The Age of the Nandas and Mauryas*, Benares 1952;
Smith, V.A., *Asoka*, Oxford 1920.

6. Bimbisara, a contemporary of Cyrus the Great, had established trade links with Persia through Gandhara before the end of the 6th century B.C. The cult of Indra in decline over the following centuries, the mystical ideal of the *Chakravartin* was given a more worldly interpretation by generations of India's most ambitious rulers in line with the staggering territorial achievements of Cyrus, emulated by Chandragupta. Notwithstanding some ambivalence on the subject of the divinity of the ruler – mediator between god and man in Persia, if not in India where the *brahmins* still pretended to that role – Kautilya's *Arthashastra* suggests that the Mauryas were closely dependent in practice upon the Persian example of kingship as a divine institution. Two Persian *satrapies* were annexed by the Indians and the imperial administration was based on the system inherited with them: a trusted magnate was sent to each province as viceroy where his autonomy was in principle constrained by regular imperial visits; a graded and departmentalized civil service was run by a council of ministers responsible directly to the emperor. As in Persia efficient communications, standard coinage and a common script were essential prerequisites for the success of the system.

Ashoka's creed was not specifically sectarian. He is reputed to have convened a Buddhist council for the codification of the canon and to have sent Buddhist missionaries abroad but he patronized other heterodox sects and never denounced Brahmanism, beyond condemning sacrifice. It is difficult entirely to disassociate his promotion of Buddhism from the realization of its potential as an instrument of unity, given its popularity with the lower castes whose standing in Brahmanical society did not match their economic importance. See Barua, B., *Asoka and his Inscriptions*, Calcutta 1946, 1955, 1968.

7. The Bactrian ascendancy reached its height under Menander (King Milinda of Buddhist literature, c.155-130 B.C.). Parthia, carved from Seleucid domains by the Parni after their advent in the mid-3rd century, fell to the Scythians about 88 B.C. In addition to Rhys Davids, *Buddhism and King Milinda*, see:
Chattopadhyaya, S., *The Shakas in India*, Delhi 1967;
Lohuizen de Leeuw, J.E. van: *The 'Scythian' Period...*, Leiden 1949;
Tarn, Sir W.W., *The Greeks in Baktria and India*, Cambridge 1951.

Kanishka's advent is variously set at A.D.78, 128 and 144 as his relationship with the dynasty's founders, Kujula and Vima Kadphises, is uncertain. The awkwardly early 78 responds to the idea that the era he is known to have founded may be identified with the so-called Shaka era, widely used for dating throughout northern India for many centuries. 128 seems most likely. See:
Mukherjee, B.N., *The Kushana Genealogy*, Calcutta 1967;
Rosenfeld, J.M., *The Dynastic Arts of the Kushanas*, Berkeley 1967;
Soper, A.C., 'Recent Studies Involving the Date of Kanishka', *Artibus Asiae* 33-34, 1971-72.

8. The Andhra may have originated in the region between the Krishna and Godavari rivers and expanded westward into the Deccan or vice-versa. The date of the advent of the Satavahanas is also controversial. The reign of their first great king, Simukha, is most likely to have been in the mid-1st century B.C. He is credited in ancient texts with having extinguished the Shungas and he may have taken Sanchi. Modern scholarship suggests that the Shungas fell to the Kanvas who then fell to the Satavahanas. Either Simukha or the third of his line, Satakarni (active in c. A.D.10.), who supported Brahmanism, halted Kharavela. The most prominent Kshatrapa, Nahapana, probably ruled in the first half of the 2nd century A.D. and seems to have met his match in Gautamiputra Shri Satakarni who regained lost ground at the expense of the Kshatrapas about that time. Satavahana pre-eminence south of the Vindhyas was secured by a marriage alliance between Shri Pulumavi and another Kshatrapa, Rudradaman of Malwa (c. A.D.130-150). The last great Satavahana, Yajna Shri Satakarni, probably died early in the 3rd century A.D.

Barrett, D. *Sculptures from Amaravati in the British Museum*, London 1954 and Spink, W. 'On the Development of Early Buddhist Art in India' *Art Bulletin* 40, no 2, 1958 provide sound guides to the problems of the period's chronology. See also Williams, J., 'An Unfinished Chaitya Hall: Junnar Manmodi 39', Ars Orientalis 8, 1970.

The Architectural Background (page 16)

9. At Pasagadae. 'The Persian Camp' of Cyrus the Great, a rectangular gatehouse with porches and an eight-columned hall gave access to a great terrace dominated by a similar, but grander hall – the earliest of the Achaemenid *apadanas* – with open colonnaded porticos to all four sides. Beyond this an elongated pavilion contained the emperor's living quarters and a central hall for private audience. These structures – which may derive from tents – were distributed informally like tents in the camp of a nomad chief and quite unlike the seats of Cyrus's imperial Babylonian and Assyrian predecessors. Babylonian precedent seems, on the other hand, to have been followed at Darius I's administrative capital Susa. The badly excavated remains there suggest a complex of rooms around three enclosed courts of polychrome glazed brick, but an enormous *apadana* – probably inspired by the hypostyle halls of Egypt – shared its terrace. At Persepolis, the great polished terrace is divided by the two huge porticoed *apadanas* of Darius and Xerxes, whose blind back walls screen the private apartments, incorporating important enclosed elements. Though all is distributed informally on the terrace, the square dominates the planning.

10. At Persepolis substantial fragments of the superstructure well demonstrate the eclecticism of Darius I. The columns in particular are complex in derivation: the bell-shaped, foliate bases bearing slender fluted shafts are comparable to early Ionic forms; the capitals consist of a tassel-like fringe of drooping sepals, a corolla motif recalling Egyptian palm-leaf motifs, an elongated block with scrolls reminiscent of Ionic volutes but doubled and vertically disposed as in Phoenician objects, and an impost block forked to accommodate a beam and carved with the foreparts of mythical beasts like the animal motifs of Uratian artefacts. The picture of an *apadana* portico incorporating an order like that of Persepolis, complete with the dentillated cornice of a heavy beamed roof, is given by the facade of the rock tomb cut for Darius I – in continuation of a Median tradition and copied by three of his followers – at Naksh-i-Rustam.

Mauryan Foundations (page 17)

11. On Megesthenes and Pataliputra see: McCrindle, J.W., *Ancient India as Described by Megesthenes and Arrian*, Calcutta 1877; Sinha, B.P. and Narain, L., *Pataliputra Excavation 1955-56*, Patna 1970. On the shrine at Bairat (dealt with below) see Sahni, D.G., *Archaeological Remains and Excavations at Bairat*, Jaipur 1937.

See also the works of Irwin and Chattopadhaya referred to above Prologue note 5 and under section 1, Pattern of Patronage.

12. As we have seen, the pole (*yashti*) which Indra wielded in battle with Vitra and implanted in the navel of the earth to peg the firmament to the floor of the primordial ocean and support the heavens, marks the scene of contact between man and the divine. As *Skambha* it was to be venerated at native *chaityas*, as *yupa* it provided tether in the Vedic sacrificial enclosure, as *dhvaja* bestowed on the earthly king and topped with the device of its particular bearer, it was the animal standard of epic literature, carried into battle to ensure divine protection. Implanted during the king's annual reconsecration ceremony in a water-filled hole at a place of sacred significance where royal burial mounds were often sited, the *yashti* became an object of worship comparable with the *yupa*, surrounded by *vedika* and *pradakshina patha*. *Yupa*, *dhvaja* and *yashti* – long erected in perishable materials – are the ancestors of the Mauryan 'Pillars of the Law' (*Stambha*).

While nine of the *Stambha* now identified – most of which are located near traditional *chaityas* – bear Ashokan edicts, at least five shafts are known not to have been inscribed at all and one of the edicts makes it clear that stone *stambhas* existed before Ashoka erected his. Construction, style and symbolism suggest that the surviving uninscribed pillars are in fact the earliest. While these seem to have been implanted unfounded in water-logged ground – presumably in accordance with *yashti* symbolism – and must have begun to sink early,

the inscribed ones are based on large underground slabs. While the surviving bull (Rampurva) and elephant (Bodh Gaya, Sankisa) devices – highly naturalistic, in character with native animal sculpture – are associated with the uninscribed pillars, all but one of the lion devices – highly stylized, in character with Persian and west Asiatic heraldic sculpture, if not actually the work of Persian craftsmen (Laurya-Nandangarh, Rampurva, Vaishali, Sanchi, Sarnath) – belong to inscribed shafts. While the bull and elephant, are indigenous sacred and royal symbols, the lion, without divine connotations in pre-Buddhist India, was a west Asiatic royal symbol given special imperial prestige by the Persians. Whoever was responsible for the uninscribed columns, the treatment of all surviving remains is too close for it to seem likely that they were separated by a long period. It is tempting to associate the adoption of the lion with the emergence of a new type of 'Universal Ruler' in Chandragupta Maurya whose pretensions, more worldly than the old *Chakravartin* ideal, were inspired by the Achaemenids. See also Chattopadhyaya, *Achaemenids* (see above, note 6).
On the related column of Helidorus at Vidisha see below and note 5.

Stupa and Monastery

Structures and Excavations under the Mauryas' Successors (page 19)

Barrett *op.cit.* (note 8) and *A Guide to the Karle Caves*, Bombay 1957;
Cunningham, A., *The Stupa at Bharhut*, London 1879; and *The Bhilsa Topes*, London 1854;
Dehejia, V., *Early Buddhist Rock Temples, A Chronological Survey*, London 1972;
Deshpande, M.N., 'The Rock-cut Caves of Pitalkhora in the Deccan', *Ancient India* 15, 1959;
Fergusson, J. and Burgess, J., *Cave Temples of India*, London 1880;
Huntington, J.C., 'The Lomas Risi: Another Look', *Archives of Asian Art* 28, 1974-75;
Kail, O.C., *Buddhist Cave Temples of India*, Bombay 1975;
Marshall, Sir J. and Foucher, A., *The Monuments of Sanchi*, Delhi 1955; Mitra, *Buddhist Monuments*, and *Sanchi*, Delhi 1965, *Ajanta*, Delhi 1956; *Udayagiri and Khandagiri*, Delhi 1960;
Pant, S., *The Origin and Development of Stupa Architecture in India*, Varanesi 1976;
Spink, *op.cit.* above, note 8.

On Vedic cosmology see above, page 3f. On Ashoka and Buddhism see above page 14.

13. The dating of the embellishments at Sanchi and the similar work at Bharhut is controversial. The work on enlarging the Mahastupa (I) at Sanchi is thought to have begun about 150 B.C. Of the great portals (*torana*) with which the *vedikas* at each site were endowed, one at Bharhut was inscribed under a later Shunga king, sometimes identified as Vatsiputra Dhanabhuti, probably in the opening years of the 1st century B.C. The *vedika* of Sanchi II is comparable stylistically. Sculptural style suggests that the southern *torana* of Sanchi I, with Ashoka's *stambha* before it and the steps to the *medhi* terrace beyond it, was the earliest of the set, the others following over the hundred years after the mid-1st century B.C. A votive inscription, however, refers to Shri Satakarni, possibly the third Satavahana ruler who is thought to have reigned from the second decade of the 1st century A.D. (see above, note 8) and inscriptions on the northern *torana* may be earlier.

Many objects were transformed into *chaityas* by enclosure with a *vedika*; the *yashtis*, from which the Mauryan 'Pillars of the Law' were descended, and the abode of tree spirits are important examples followed by the Buddhists in their devotion to the *bodhi* tree under which Buddha achieved Enlightenment at Gaya. But so effective and prominent was the elevation of the cenotaph into the *chaitya* through its endowment with the attributes of the sacred enclosure in this way, that the words *chaitya*, initially referring to sacred spots in general, came to be used synonymously with the word *stupa*. When this step was taken is unknown.

14. There is, unfortunately, no clue to the dating of the key works at Kondivte, Pitalkhora, Guntupalli and Tellicheri – beyond the similarity of the one at Kondivte to those at Barabar, three of which are inscribed with Ashoka's title Priyadarshin, and of Pitalkhora XII to one at Nadsur (VIII) which has a fragmentary inscription datable to the early 1st century B.C. The shrines at Guntupalli and Tellicheri are probably not much later than those at Barabar and possibly not Buddhist.
The term for such excavations in general is *lenya* in western India, *gumpha* in the east. As the usual English translation 'cave temple' does scant justice to the form I propose to avoid it.

15. The transition from the early *chaitya-griha* at Kondivte to the one at Bhaja and Pitalkhora III is hardly less remarkable than the original achievement at Barabar itself. Yet stone carving seems to have been mastered completely only after about a century of effort. Dating, guided by the degree of elaboration of forms, which may reflect practice in wood, and less reliably by the degree of dependence on wood to supplement the stone, is generally based on the somewhat problematical analysis of the script and content of many votive inscriptions. The *chaitya-grihas* of Bhaja, Kondane, Pitalkhora and Ajanta X all bear inscriptions datable to the opening decades of the 1st century B.C. An inscription on one of the *viharas* at Bhaja is contemporary with these. Nasik XIX has a key inscription recording its excavation under the early Satavahana king Kanha, perhaps the second of the line who ruled towards the end of the 1st century B.C., and the Pandulenya there has an earlier one of about the mid-century. The Budhlenya at Junna and Pitalkhora IV have inscriptions datable to the mid-1st century A.D. The dating of the earliest inscriptions at Bedsa ranges from the last half of the 1st century B.C. to the second quarter of the 1st century A.D. If the latter is accepted as more probable on stylistic grounds, the earliest votive records at Karle seem to be at least three generations later and as no significant work is recorded in between, apart from the completion of the Pandulenya at Nasik, a break in activity at Western Ghat sites may well have coincided with the reversal of Satavahana fortunes. The unfinished work at Kanheri seems to have been furthered in two stages, at least one under Yajna Shri Satakarni late in the 2nd century A.D. The most sophisticated *viharas*, Nasik X and III, have key inscriptions of Kshatrapa Nahepena about 120 A.D. and of the restored Satavahanas later in the first half of the 2nd century respectively. Derivative developments at other western sites – Kuda, Karadh, Mahad, Shelavadi, Sana, Talaji – have 2nd-century inscriptions.

Innovations in the North (page 29)

In addition to Chattopadhyaya, *Shakas*, Rosenfeld, *Kushanas*, and Mitra, see:
Foucher, A., *L'Art Greco-Buddique du Gandhara*, Paris 1951.
Marshall, Sir J., *Taxila* (3 vols), Cambridge 1951; *The Buddhist Art of Gandhara*, Cambridge 1960;
Soper, A.C., 'The Roman Style in Gandhara', American Journal of Archaeology 55, 1951.
Wheeler, Sir R.E.M., *Rome Beyond the Imperial Frontiers*, London 1954.
See also Ahmad, N., 'A Fresh Study of the Fire Temple (?) at Taxila', *Pakistan Archaeology* IV, 1967.

16. Buddhism had been the dominant religion in Gandhara since Ashoka's time and its ideals were presumably served there by the art forms evolved in India under the Mauryas. Remains datable to the Mauryan period at Taxila, where the *Dharmarajika Stupa* has been identified with the foundation endowed by Ashoka, and at Manikyala and Jamalgarhi, suggest that the simple hemispherical form was first augmented with a *medhi*, supporting an upper circumambulatory passage. As we have seen, not only the Kushanas but their Shaka and Parthian predecessors and even the Bactrians who supplanted the Mauryas, espoused the patronage of the *Sangha* with enthusiasm. Legend has it that Menander, responsible for consolidating Bactrian control over Gandhara, endowed *stupas* – and in consolidating his own position as an independent ruler it was doubtless vital for Menander to identify with the cause of his subjects against their common enemy, the anti-Buddhist Shunga king Pushyamitra. See Rhys Davids, *King Milinda*, and Tarn, *Greeks in Bactria* (above, note 7).

17. Excavator of Sirkap, Marshall noted the resemblance of its palace to Parthian ones (on which see above, page 17). He dates the 'Shrine of the Double-Headed Eagle' to the reign of the last Shaka, Asez II (35 B.C.-A.D.1) and the great apsidal *chaitya-griha* at Sirkap to after the earthquake of A.D.30.

18. Marshall, *Taxila*, makes this point but see above, note 4.

19. The masonry of the Dharmarajika's *anda* indicated to Marshall, *Taxila*, a reconstruction by the Parthians after the earthquake of A.D.30. It incorporates earlier material but the semi-ashlar of the *medhi* seemed characteristic of 2nd-century A.D. Kushana work. Most of its embellishment dates from that period but the niches are perhaps a century later. The earliest votive *stupas* date from the reign of the first Shakas. The earliest image shrines are in the type of masonry introduced by the Parthians immediately after the earthquake of A.D.30. The rectangular walled *vihara* with continuous verandahs is datable from its masonry to the late-2nd century A.D.

The other major monasteries at or near Sirkap are Khader Mohra, Kalawan, Giri, Kunala, Mohra Moradu, Pippala, Jaulian, Bhamala and Manikyala. Sharibahlol, Takht-i-Bahi, Shah-ji-ki-Dheri and Jamalgarhi were the most important around Purushapura. On the latter see Dobbins, K.W., *The Stupa and Vihara of Kanishka*, Calcutta 1971.

Innovations in the South (page 33)

Barrett, *op.cit.* above, note 8 and *Ter*, Bombay 1960;
Burgess, J., *The Buddhist Stupas of Amaravati and Jaggayyapeta* (A.S.I. 6), London 1887;
Krishna Murthi, K., *Nagarjunaconda*, Delhi 1977;
Longhurst, A.H., *The Buddhist Antiquities of Nagarjunaconda*, Delhi 1938;
Ramachandran, T.N., *Nagarjunakonda*, Delhi (A.S.I.) 1953;
Rea, A., *South Indian Buddhist Antiquities*, Madras 1894;
Sarkar, H. and Misra, B.N., *Nagarjunaconda*, Delhi (A.S.I.) 1966;
Sarkar, H. and Nainar, S.P., *Amaravati*, Delhi (A.S.I.) 1972;
Stern, P. and Benisti, M., *Evolution du style indien d'Amaravati*, Paris 1961.

20. Archaeological interest in the site at Amaravati was first taken in 1816 when a survey drawing was made. A votive inscription of Pulumavi refers to a *Dharmachakra* at the west gate and one of his early successors inscribed a portion of the *vedika* coping. The sculpture went through three broad phases of development, the first datable from stylistic analysis to the reign of Pulumavi, or shortly before when the Satavahanas seem to have absorbed the Andhradesha, the last ending soon after the triumph of the Ikshvakus.

The predominance of Nagarjunakonda seems to have been brief – it rose with the Ikshvakus in the 3rd century and fell with them in the 5th. Few of its buildings seem to have undergone more than one period of construction and no sculptural remains later than the 5th century A.D. are known. Other important sites include Alluru, Bhatiprolu, Goli, Gummadidurru and Jaggayyapeta.

21. See glossary note.

2 Fifth Century A.D. – Thirteenth Century A.D.

Religious Developments (page 37)

1. While the *Upanishads*, the *Bhagavad Gita* in particular (see above, page 6), remained of primary importance and the Epics were annexed and developed for Hindu purposes from the 4th century A.D. the literature was expanded in works ranging from compendia of rules for the proper veneration of deities, for their representation and for the construction of their temples, to sacred poetry and vernacular hymns conveying ecstatic spiritual experience, from the relation of colourful mythology to abstruse enquiry into the nature of the cosmos. Of widest accessibility are the Puranas which represent the main sectarian devotional traditions, Vaishnavite and Shaivite. They develop mythology from its Vedic sources and expand it to provide for the descent of royal families. Amongst the most influential rationalizations of the Upanishadic tradition was the Vedanta, one of the *Suddarshana* ('Six Ways to *Mukti*') of the 9th-century sage Shankara. Amongst the most significant hymnists were the Tamil Nayanars and Alvars. Ramanuja of Shrirangam was amongst the most important of the theologians to attempt to formulate the message of the hymnists.

The term 'Hinduism' was coined by Arabs in the 8th century A.D. to cover the beliefs of the 'infidel' inhabitants of India ('al-Hind' deriving from the Greek 'Indus') but it has been found a convenient one for distinguishing the religion which came to dominate the spiritual life of the Subcontinent in the 1st millennium A.D., from the orthodox Brahmanism of the previous millennium.

2. Ritual gesticulation (*mudra*) and incantation of magical formulae (*mantra*) in meditation on magical diagrams (*mandala*), the controlled breach of orthodox taboos and sacramental copulation (*mithuna*) are calculated to activate the potency latent in the human body and progressively assimilate it with the sacred cosmic potency towards release (*moksha*). The Buddhists likened this power to the thunderbolt (*vajra*) hence the 'Way of the Thunderbolt' (*Vajrayana*). The more vigorous, sexually explicit *mithunas* embellishing Hindu temples, like those of Khajuraho and Konarak may well relate to Tantric cults. As the Huntingtons persuasively conclude (*op.cit.* page 268): 'the total emotional and physical involvement of the individual with the partner during sexual activity is a metaphor in Indic religious thought for the mystical union with the Universal...'

Hindu Worship and the Formula for Sacred Building (page 39)

3. On temple ritual see in particular Kramrisch, *Hindu Temple*, and Michell, *Hindu Temple* – an admirably lucid summation of the subject.

4. Of many texts produced over a millennium the earliest datable *vastushastra* is the *Brihat Samhita* of the 6th century A.D. but its sources were the post-Vedic commentaries relating to the sacrificial altar (see Pro-logue note 6). It gives two *vastu-purusha-mandalas*, of 64 and 81 squares: the former, *Manduka*, is for temples but palaces may follow the latter, *Paramashayika* – see Kramrisch, *Hindu Temple*, page 5 and page 46ff, where she explains that 'while the square of 8 represents the order of the celestial world... the square of 9 leads from the subtle body of the microcosm and its image to the universe... Number being the primary substance of the universe, 64 and 81... are the basis on which rests the temple in which the universe has its image, and man his place of transformation'.

Apart from planning governed by the *vastu-purusha-mandala*, *vastu-shastra* gives detailed consideration to all aspects of the architectural process. A major concern is the complex pattern of rites which accompanied every phase from preparation of the site to consecration. Crucial too is the designation of the hereditary responsibilities of those concerned: the patron, the priest-architect and his colleagues, the executive craftsmen including the superintendent of works, the surveyor, the builder, the carpenter-sculptor and the plasterer-painter. These latter all belonged to regulated guilds. Volwahsen, *Living Architecture: Indian*, attempts the application of theory to practice with reference to the Brahmeshvara Temple at Bhubaneshwar, noting: 'it is not difficult to find the geometric key to a ground-plan. But when it is a matter of interpreting the esoteric content of these graphic constructions and formulae we are unfortunately reduced to conjectures' (page 51ff).

5. The *garbha-griha* is a simple rectangle, usually a square, (*chaturashra*), and though the form of *vimana* or *mulaprasada* reflects this, its exterior is varied in plane (*anga*) to produce important vertical divisions (*rathas*). In the simplest, (*tri-ratha*), there are commensurate (*samadala*) base *rathas* (*karnas*) flanking a broad central one (*bhadra*). Three planes (*tri-anga*) and five divisions (*pancha-ratha*) are produced by inserting a pair of *pratirathas* between the *karnas* and *bhadra*. Additional *pratirathas* (or smaller *nandikas*) may be added to produce still more complexity, but four planes and seven divisions (*chatur-anga* and *sapta-ratha*) are in fact rarely exceeded, though manipulation of the breadth of the *pratirathas* and their angles of incidence or the fixing of the angles of a square at equidistant points on the circumference of the circle described by its rotation (*parivartana*) was to produce star-shaped plans (*vritta samsthanaka*).

6. The platform (called *jagati* or *pishta* in the North, *upapita* in the South), may be elaborately moulded and often echoes the base of the building upon it. The elaboration of the socle (*pitha*, *bhumika*, *pabhaga* or *adhisthana* in the west, north, east and south respectively) is a key to the differentiation of India's architectural schools. It may be composed of several or all of a range of variously embellished mouldings: in ascending order, a slab-like plinth (*bhitta*), various cyma recta (*padma* or *jadyakumbha*), torus (*kalasha*, *kumuda* or *kumbha*) and astragal (*karnaka*) mouldings (representing the lotus, water pot and tortoise on whose symbolic significance see Prologue, note 6 and above, pages 40, 42), a recessed band (*antarapatra*), a string-course (*pattika*) or cornice form with a minor *padma* (*chadyaki* or *kapotali*), surmounted by a succession of friezes including *kirttimukha* (*grasapatta*), elephants (*gaja-pitha*), horses (*ashva-pitha*) and humans (*nara-pitha*). A dado (*vedibanda*), which acts as the base for the whole in the absence of a socle, incorporates *kumbha*, *kalasha*, *antarapatta* and *kapotali* and in early works this is interrupted by a frieze with blocks representing joist ends (*tula-pitha*) below the *bhadras*. See figures 95 (a) and 115(a).

The wall (*mandovara*), of one or more registers (*jangha*), divided by a string course (*bandhana*), has *devakoshthas* or *rathikas* surmounted by tiered and interlocked *nasikas* (*udgama*) in the *karnas* and *pratirathas* and *ghana-dvaras* in the *bhadras*. In the more elaborate temples pilasters bearing shrine motifs (*kuta-stambhika*) interrupt the sequence of *rathikas* in the *pratirathas* and corners are stressed by slight projection (*salilantara*) with *dikplas*, *apsaras*, *mithunas*, *shardulas* or *vyalas*. The entablature (*varandika*), usually incorporating capital mouldings (*bharani*), *kapotali* and *antarapatta* is invariably dominated by ribbed eaves (*khuracchadya*). Above this comes the superstructure on which see below. See Dhaky, M.A., 'The Genesis and Development of Maru-Gurjara Temple Architecture', in the indispensable *S.I.T.A.*

On symbolism see above pages 3f and Prologue, note 6. On the use of vernacular terms see Glossary note. As indicated there when the term has special symbolic significance I retain it. On the other hand I propose to use 'southern', 'northern' and 'hybrid' instead of the labels 'Dravidian', 'Nagara' and 'Vesara' which are often applied to the major schools of Indian architecture despite the confusion with which a variety of *shastra* definitions in conflicting geometrical and geographical terms has surrounded them. The problem is admirably dealt with by Dhaky, M.A., *The Indian Temple Forms in Karnata Inscriptions*, Delhi 1977.

The Pattern of Patronage (page 43)

Bose, N.S., *History of the Chandellas of Jejakabhukti*, Calcutta 1956;
Majumdar, M.R., *Cultural History of Gujarat*, Bombay 1965;
Majumdar, R.C., and Altekar, A.S. (eds.), *The Gupta-Vakataka Age*, Lahore 1946;
Mookerji, R.K., *The Gupta Empire*, Delhi 1969.
Puri, B.N., The History of the Gurjara-Pratiharas, Bombay 1957;
Ray, H.C., The Dynastic History of Northern India (Early Mediaeval Period) (2 vols), Calcutta 1931-6;
Sastri, K.A., *The Cholas* (2 vols), Madras 1933-5;
Sivaramamurti, C., *Royal Conquest and Cultural Migration in South India and the Deccan*, Calcutta 1964;
Yazdani, G., The Early History of the Deccan (2 vols), London 1960.

7. A high standard of living was based on the prosperity which came with three long reigns and peace, but commerce was less important to that prosperity after the decline of Rome, land relatively more so, and given the structure of the state, the Guptas had fewer resources at their direct disposal than the Mauryas or even the Kushanas. The central monarchy's claim to sovereignty over the peripheral parts of the empire, backed less and less by force of arms, and relying more and more on contractual relationships, is generally called 'feudal' – though in its economic aspect it did not have all the ramifications of feudalism in Europe. Underwritten by Brahmanical recognition of the king's divine right, the basis of each contract was tribute and service in return for land and protection but differing degrees of privilege conceded and responsibility exacted, responded to the disparate origins of the 'feudatory' – and of the relationship. Favourable to the growth of military aristocracy, 'feudalism' was ultimately to prove destructive of the political cohesion and prosperity of the Subcontinent.

The Temple

Early Structures in Gupta Domains (page 46)

In addition to the works cited in the general list above see:
Agrawala, P.K., *Gupta Temple Architecture*, Varanesi 1968;
Agrawala, S.A., *Gupta Art*, Lucknow 1948;
Harle, J.C., *Gupta Sculpture*, Oxford 1974.

8. See Fleet, J.F., *Inscriptions of the Early Gupta Kings and their Successors* CII3, Calcutta 1888, page 21 (and pages 18ff, 88ff, 91ff for Eran, see below). Due to their similarities with the works at Udayagiri, Sanchi 'Temple 17' – probably Buddhist and built at a time when further embellishment of the Mahastupa included images of the Buddha – and the Kankali Devi at Tigawa are usually also placed in the early-5th century.

9. Inscriptions indicate that the aspirations of Indian temple builders had achieved the *shikhara* by the 5th century. The earliest recognisable prototype for the form most prominent in the north may well be that distinguishing the Dashavatara of Deogarh which, though usually assigned to the 6th century, bears an inscription attributable to the brother of the emperor Kumara (415-54), Govinda Gupta, Viceroy of Malwa. See:
Banerjee, N.R., 'New Light on the Gupta Temples at Deogarh' *Journal of the Asiatic Society* 5, nos. 1, 2, Calcutta 1963;
Desai, M., *The Gupta Temple at Deogarh*, Bombay 1958;
Shah, U.K., 'Beginnings of the Superstructure of Indian Temples', *S.I.T.A.*;
Tartakov (Tarr), G.M., 'Reconsidering the Flat-roofed Temple Hypothesis', *Kaladarshana* (ed., Williams, J.G.) Oxford 1981.

10. The Parvati Temple at Nachna Kuthara, like the Shiva Temple at Bhumara, has an inscription of a Vakataka feudatory datable to the 5th century, but these do not necessarily relate to the existing structures and in accordance with later Gupta practice the Ganga and Yamuna figures are at the base of the portals.

A 6th-century date is most generally accepted for the founding of the Mahabodhi Temple at Bodh Gaya. The displaced Vajrasana shrine was re-erected to the west about a transplanted descendent of the original pipal and though nothing of the Bodhi-ghara survives, a polished stone slab recovered from within the existing building seems to be an early *vajrasana*. See:
Beal, S., *Si-yu-ki Buddhist Records of the Western World. Translated from the Chinese of Hiuen Tsiang*, London 1884, and *Life of Hiuen-Tsiang*, London 1911;
Barua, B.M., *Gaya and Buddha Gaya*, Varanesi 1975;
Bhattacharyya, T., *Bodhgaya Temple*, Calcutta 1966;
Myer, P.R., 'The Great Temple at Bodh Gaya', *Art Bulletin* 40, 1958.

Estimates of the date of the temple of Bhitargaon have ranged from the 4th century to the 8th century. After exhaustive analysis of architectural features, brickwork, terracotta relief work and iconography, Zaheer, M., *The Temple of Bhitargaon*, Delhi 1981, ultimately dependent upon its correlation with Harle, *Gupta Sculpture*, not implausibly concludes that 'a date of A.D. 450 would seem to be the latest for this temple'. Amongst several brick and terracotta specimens accepted as providing relevant points of comparison with the work at Bhitargaon, the most significant are found to be those from Mathura, Ahicchattra, Sarnath and the Nivana Temple at Kasia. Possibly Kushana, the latter has contracted applied columns anticipating those of Bhitargaon. Zaheer's apparently uncritical acceptance of a 10th-century date for the temple at Sirpur – after Brown, P., *Hindu Architecture (Buddhist and Hindu)*, but in ignorance of Dikshit, M.G., *Sirpur and Rajim Temples*, Bombay 1960 – is incongruous.

Mahayana, Hindu and Jaina Excavations (page 50)

11. Of uncertain date, no earlier than the 5th century A.D., the most elaborate examples of Kolvi and Binnayaga, north of ancient Avanti just within modern Rajasthan, have square bases and circular or octagonal drums, sometimes articulated with pilasters, always incorporating aedicules. A coarse porch, balanced on the other three sides by *ghana-dvaras*, leads to the sanctum deep within the rectangular base which contains the principal cult image. At nearby Dhamnar rock-cut *stupas*,

similar in their elaboration, play a more familiar role as cult objects rather than shrines in a variety of *chaitya-grihas*, and *viharas*, above all in a somewhat unwieldly synthesis of these two forms known as 'Bhim-ka-bazaar' (*lenya* 12). See Mitra, *Buddhist Monuments*.

Activity at Ajanta revived under the later Vakatakas – when relations with the Guptas were at their closest during the regency of Queen Prabhavati but most particularly under King Harisena according to the substantial body of evidence accumulated by W.M. Spink. See in particular Spink's *Ajanta to Ellora*, Bombay 1967; 'Ajanta: A Brief History', *Aspects of Indian Art* (ed. Pratapaditya Pal), Leiden 1972; 'Ajanta's Chronology: Politics and Patronage'. *Kaladarshana* (ed. Williams, J.G.), Delhi 1981. Spink dates the reign of Harisena to 460-78, ending within a decade of the extinction of the Vakataka line. On Spink's interpretation of the inscriptions, activity began towards the middle of the site, west of the early nucleus (*lenyas* VII, IX, X, XII, XIII), with the excavation of a great new *chaitya-griha* (XIX) and associated *viharas* (XV-XX – XVI and XVII bear inscriptions relating to Harisena and one of those in XVII refers to XIX). The activity culminated in the unfinished series of *viharas* XXI-XXIX at the western end of the site, including the second Mahayana *chaitya-griha* (XXVI, which has an inscription datable to the last years of the dynasty). Meanwhile, the series had been extended eastwards from the original group with VI, VII and I-V. Harle, assessing Spink's position in the light of his own command of Gupta studies, concludes 'it is unquestionable, on grounds of style, that none of the caves are later than the early sixth century' (*Art and Architecture* page 501).

Spink maintains that the excavations at Bagh should be dated between 470-80; see 'Bagh: A Study', *Archives of Asian Art* 30, 1976. At Aurangabad, where much is damaged or unfinished, Spink credits I and III to the late Vakatakas, VI, VII and IX to the Kalachuris who had established themselves in the area by the second half of the 6th century and to whom he also credits the great works at Elephanta and Jogeshvari – see his article 'Ajanta to Ellora' *loc.cit.* and Barrett, D., *A Guide to the Buddhist Caves of Aurangabad*, Bombay 1957. At Ellora work began under the patronage of the early Chalukyas about the middle of the 5th century with a series of *viharas* (I-V – perhaps V first). A second series (VI-XII), which included the last *chaitya-griha* excavated in India, seems to have terminated with the defeat of Pulakeshin II by the Pallava Narasimha-varman I in A.D.642. In addition to the works of Fergusson, Burgess, Kail and Mitra listed above page 310, see:

Gupte, R.S. and Mahajan, B.D., *Ajanta, Ellora and Aurangabad Caves*, Bombay 1962;
Levine, D.B., 'Aurangabad: A Stylistic Analysis', Artibus Asiae 28, 1966;
Sen Gupta, R: *A Guide to the Buddhist Caves of Elura*, Bombay 1958.

12. The nine-square formula conforms to a *mandala* known to *vastushastra* as the Pithapada. As Kramrisch, *Hindu Temple*, page 59, quoting the *Satapatha Brahmana*, explains: 'here it is Prithvi, the earth, who holds the central square... and not Brahma, the embodiment of Brahman'. Commonly applied to the planning of the hall (*mandapa*) which shelters the worshipper before the portal of the *garbha-griha*, the 9-square formula is, of course, the basis for the *Paramashayika Mandala* of 81 squares recommended for palaces. See above, section 2, note 4.

13. Apart from the one at Udayagiri, the only dated Hindu *lenya* in western India is the third of the series of four at Badami which bears an inscription with a date equivalent to A.D.578 recording that it was built under the Chalukya king Kirttivarman I (566-97) by his brother Mangalesha. The series, ascending a rocky spur to the south of the lake by which Badami stands, includes one Shaivite, two Vaishnavite and a Jaina temple. Two smaller works – one Jaina, one Shaivite – at nearby Aihole complete the short list of significant excavated works in the heartland of the Chalukyan empire. See Tartakov (Tarr), G.M., 'Chronology and development of the Chalukya Cave Temples', *Ars Orientalis* 8, 1970.

In the light of the chronology established by Spink and stylistic considerations, it is now usually thought that the Hindu series at Ellora began under the Kalachuris about the middle of the 6th century, perhaps with the Rameshvara (XXI), and culminated with the Ravani-ki Khai (XIV) and the stupendous Kailasa (XVI) of the Rashtrakuta king Krishna I (757-73). The Buddhist series, probably contemporary with the early Hindu works, ends with the Tin Thal (XII) – the Dashavatara (XV), which may have been begun for them and converted by the Hindus, was inscribed by the Rashtrakutas after the middle of the 8th century. The great Hindu *lenya* at Jogeshvari, Mandapeshvara, Elephanta and the Dhumar Lenya at Ellora are now usually dated to the late Kalachuri period ending with the 6th century. See Spink *op.cit.*, and his 'Ellora's Earliest Phase', *Bulletin of the American Academy of Benares I*, 1967. 'Monuments of the Early Kalachuri Period', *Journal of Indian History* 46, 1968. 'The Great Cave at Elephanta: A Study of Sources' in *Essays on Gupta Culture*, (ed.Smith) Missouri 1983. See also:
Berkson, C., Michell, G. and O'Flaherty, W.D., *Elephanta: The Cave of Shiva*, Princeton 1983;
Chandra, P., *A Guide to the Elephanta Caves*, Bombay 1960;
Gorakshkar, S., 'A Harihara Image from Jogeshvari and the Problem of Dating Gharapuri (Elephanta)', *MADHU: Recent Researches in Indian Archaeology and Art History*, Delhi 1981;

14. On the enigmatic image of the Trimurti – most plausibly seen as a *mukhalinga* of the Sadashiva or Mahesha, rather than an image of the Hindu Trinity – see Kramrisch, S., *The Presence of Siva*, Princeton 1981; Harle, *Art and Architecture*, page 124; and the Huntingtons, *Ancient India*, page 279.

Structures of the Early Chalukyas and their Neighbours (page 60)

In addition to the works cited in the general list above, see:

Cousens, H., *The Chalukyan Architecture of the Kanarese Districts*, (A.S.I) Calcutta, 1926;
Gupte, R.S., *The Art and Architecture of Aihole*, Bombay 1967; Balasubrahmanyam, S.R., 'The Date of the Lad Khan (Surya-Narayana) Temple at Aihole', *Lalit Kala* 10, 1961;
Michell, G., *An Architectural Description and Analysis of the Early Chalukyan Temples*, London 1975, and 'Dating the Mahakuteshvara Temple at Mahakuta', *Oriental Art* 21, 1975;
Rama Rao, M., 'Early Chalukyan Architecture – A Review', *Journal of Indian History* 41, 1963;
Rao, S.R., 'A Note on the Chronology of Early Chalukyan Temples', *Lalit Kala* 15, 1972;
Tartakov (Ṭarr), G.M., 'The Beginning of Dravidian Temple Architecture in Stone', *Artibus Asiae* 42, 1980.

15. The Chikka Mahakuta has been dated to the mid-5th century. The date of the earliest Aihole work is uncertain but the Lad Khan's entrance bears a sovereign device of the Chalukya kings which is unlikely to have been used much before the last quarter of the 5th century when, at the earliest, that sovereignty was established. The Garuda block on the shrine portal indicates that this temple was originally Vaishnavite and the shrine chamber in its tower is dedicated to Surya. However it was converted for Shiva probably by the Lingayatis in the 12th century, and the cult image is a *linga* with a large Nandi in the hall. The Kontigudi, perhaps more primitive than the Lad Khan, is a rectangular *mandapa* divided longitudinally by massive piers; but the axis from its entrance in the centre of an open verandah on one long side to the *garbha-griha* against the wall opposite cuts across the internal division. On the more recent phase of the controversy over the dating of Early Chalukyan temples see in particular the works of Rao, Michell and Tartakov listed above.

16. Other examples of the first alternative plan at Aihole include the Huchchappayyagudi and Galagnatha Temples. Other examples of the second alternative are the Gaudagudi and Chikkagudi Temples. Examples of the expansion of the first type by the addition of a vestibule are to be found in the Galagnatha and Huchchimallagudi groups. None of these temples is dated, though their dedication to Vishnu refects the sectarian leanings of the 6th-century Chalukya rulers, and there is some archaeological evidence that the Gaudagudi is amongst the earliest of the site – but see above, note 15.

17. The Sitaleshvara at Chandravati, whose foundation was recorded in

689, seems originally to have consisted of *mulaprasada* and porch. Dikshit. G., *Sirpur*, demonstrates that the Lakshmana of Sirpur was founded by an early-7th century ruler. The Parashurameshvara at Bhubaneshwar is datable from inscriptions to the mid-7th century. See Panigrahi, K.C., *Archaeological remains at Bhubaneshwar*, Bombay 1961. For further Orissan references see below, page 318.

Regional Variants (page 67)

18. See Saraswati, S.K., *Architecture of Bengal*, Calcutta 1976. Mitchell, G. (edited from archives of D.J. McCutchion), *The Temples of Bengal*, provides an exhaustive survey of the subject. See also Datta, B.K., *Bengal Temples*, Delhi 1975 and Fischer, K., 'Bengal Brick Temples', *S.I.T.A.*

The Bransberia Ananta Vasudeva is dated to 1679.

19. The Martand Temple is usually dated to the 8th century, the Avantipur works to the 9th century and the one at Pandrethan to the 10th century. See:

Kaul, M., *Kashmir, Hindu, Buddhist and Muslim Architecture*, Delhi 1971;

Mitra, D., *Pandrethan, Avantipur and Martand* (A.S.I.), Delhi 1977.

20. Noble, W.A., 'The Architecture and Organization of Kerala Style Hindu Temples', *Anthropos* 76, 1981;

Sarkar, H., *An Architectural Survey of Temples in Kerala* (A.S.I.), Delhi 1978;

Soundara Rajan, K.V., *Temple Architecture in Kerala*, Trivandrum 1974.

21. The temple at Gop is datable to the 6th century. See Nanavati, J.M. and Dhaky, M.A., *The Maitraka and Sandhava Temples of Gujarat*, Ascona (*Artibus Asiae*) 1969; Meister, M.W., 'Phamsana in Western India', *Artibus Asiae* 38, 1976;

On the Kadambas see Cousens, *Chalukyan Architecture*.

Excavations of the Pallavas and their Contemporaries (page 72)

In addition to the works cited in the general list above (E.H.T.A in particular), see:

Gangoly, O.C., *The Art of the Pallavas*, Calcutta 1957;

Lockwood, M., Siromoney, G. and Dayanandan, P., *Mahabalipuram Studies*, Madras 1974;

Longhurst, A.H., *Pallava Architecture: Part I (Early Period)* Simla 1924, *Part II (Mamalla Period)* Calcutta 1928, *Part III (Rajasimha Period)* Calcutta 1930;

Michell, G., 'The Southern Indian Temple Style; Part One: An Architectural Analysis of the Pallava Temples', *AARP* 10, 1976;

Nagaswamy, R., *Art and Culture of Tamil Nadu*, Delhi 1972;

Rae, A., *Pallava Architecture* (A.S.I), Madras 1909;

Srinivasan, K.R., *Cave Temples of the Pallavas* (A.S.I), Delhi 1964; 'The Pallava Architecture of South India', *Ancient India* 14, 1958; *The Dharmaraja Ratha and Its Sculpture, Mahabalipuram*, Delhi 1975; 'Temples of the Later Pallavas', *S.I.T.A.*

22. The beginning of Mahendra-varman I's reign is sometimes set at 600 and various authors differ on later Pallava reign dates. Many of the Pallava works bear inscriptions which date them within a period over some two centuries from the reign of Mahendra-varman – though the most important ones had been carried out by the end of the reign of Narasimha-varman II Rajasimha (c.690-728) who founded the earliest known structural stone temples in the south. Some nine temples are inscribed with one of Mahendra-varman's titles – at Mandagappattu. Pallavaram, Kuranganilmuttam, Mahendravadi, Siyamangalam, Mamandur, Vallam, Tiruchirappalli and, possibly, Dalavanur. Many other temples, uninscribed or bearing the records of later Pallavas and their lesser contemporaries – notably at Vilappakkam, Aragandanallur, Tirukalikundram, Shingaperumal-koil, Shingavaram, Melacheri, Mamandur, the Atiranachanda of Rajasimha at Shaluvankuppam and the Kotikal and Dharmaraja-Mandapas at Mahabalipuram – conform to the type evolved under Mahendra-varman.

Inscriptions of Mahendra-varman I claim successes against the Chalukyas. How far that success took the Pallavas towards Badami is unclear, but it is tempting to see in the embellishments like those at Dalavanur and Tiruchirapalli some knowledge of the low relief medallions adorning the piers of the excavated temples at Badami. Of course it remains possible that both schools drew independent inspiration from the Buddhists. The inscription in the Lakshitayatana Temple at Mandagappattu implies that it was novel to produce a temple in stone – one of Mahendra-varman's tiles was Lakshita.

23. The most important late *mandapas* at Mahabalipuram are the Koneri, Varaha, Mahishamardini and Adivaraha, begun by Mamalla himself if mainly completed by his successors, and the Ramanuja, Trimurti and Panchapandava of Parameshvara-varman I (c.672-690). The Trimurti is exceptional in having no hall before its three elaborate shrine portals. The Panchapandava's *garbha-griha* may have been planned as detached. At Shaluvankuppam, apart from the Atiranachanda, Rajasimha added several unorthodox works, most notably the Yali-mandapa miscalled the 'Tiger-cave' in virtue of the *mandala* of *vyala* heads which surrounds its portico.

The Pallava 'Rathas' and Structural Temples (page 74)

See works listed under previous section.

24. There are nine principal 'Rathas': the Draupadi, Arjuna, Nakula-Sahadeva, Bhima and Dharmaraja form the main group to the south of the large outcrop of rock from which most of the excavated temples of Mahabalipuram are carved; the Ganesha on the north-east edge of the same rock; the Valaiyankuttai and two Pidari Rathas to the west by a minor outcrop. The Ganesha and the Dharmaraja were both inscribed under Atyantakama Pallava who has been identified with Narasimha-varman I Mamalla, not without controversy (summarized by Harle, *Art and Architecture*, Chapter 20, note 30). The upper shrine of the Dharmaraja Ratha (with icons of Shiva, Vishnu and Brahma) seems to have been consecrated under his successors Mahendra-varman II and Parameshvara-varman I and the work was never completed.

25. The Shore Temple (Alaivayakoil) is credited on the basis of Pallava and Chola inscriptions found in its precincts to Narasimha-varman II Rajasimha, who founded several other less significant temples at Mahabalipuram. The Talagirishvara at Panamalai was inscribed for Rajasimha. The Kailasanatha of Kanchi was founded by Rajasimha (and bears an inscription naming it Rajasimheshvara) but it seems to have been furthered in conjunction with his son and co-ruler Mahendra-varman III (c.720-728), as an inscription on the subsidiary Shiva shrine within the entrance testifies. The Vaikuntha-perumal at Kanchi was probably founded by the unfortunate Parameshvara-varman II (c.728-731) but was completed by Nandi-varman II Pallavamalla (c.731-796).

Temples of the Restored Chalukyas and their Successors (page 83)

In addition to the works cited in the general list and under 'Early Chalukyas' above, see:

Annigeri, A.M., A Guide to the Pattadakal Temples, Dharwar 1961;

Bolon, C.R., 'The Mahakuta Pillar and its Temples', Artibus Asiae 41, 1979;

Rama Rao, M., 'The Temples of Alampur', Journal of Indian History 39, 1961;

Ramachandra Rao, P.R., Alampur, Hyderabad 1977.

26. None of the Badami temples is dated but the Mahakuteshvara has an inscription of Vijayaditya (696-733). The structure of the hall, with beams running across the principal axis, accords with that of the Kailasanatha at Kanchi rather than any known local precedent. It seems not implausible that the relatively homogeneous 'Southern' series at Badami post-dates Vikramaditya I's initially successful sorties into Pallava domains which culminated about 672 in the defeat of Mamalla's successors and the occupation of Kanchi. The vigorous, if rather primitive and incomplete superstructure over the square shrine in the Kontigudi group at Aihole, incidentally, is almost certainly contemporary with the later Badami works. For a different view see Harle, *Art and Architecture*, Chapter 13, and references to the unpublished thesis of Tartakov in Huntington, *Ancient India*, Chapter 15.

27. At Pattadakal the Sangameshvara, called Vijayeshvara in several local inscriptions, is credited to Vijayaditya on a stone tablet found in its precinct. According to a pillar inscription nearby, the Virupaksha, originally called Lokeshvara, and the Mallikarjuna, originally called Trailokeshvara, were founded by the wives of Vikramaditya II (733-744) in commemoration of their husband's conquest of Kanchi. Two inscriptions on the *gopura* of the Virupaksha's compound record that its builder was the most eminent master of the southern kingdom, who, honoured by the king, is elsewhere named as Gunda. As we have seen, Vikramaditya's inscription on the Kailasanatha at Kanchi records admiration for that work to which the Virupaksha bears some resemblance. The Virupaksha inscription also records that the southern architect was assisted by sculptors called Baladeva and Chengamma who are connected with work on the Papanatha. Not specifically datable, though credited to another southern master in an inscription on the east face, the Papanatha appears to be earlier than the others but it can hardly have preceded the Virupaksha by much more than two generations if the same craftsmen worked on both.

The most important work at Alampur, the Nava Brahma, bears an inscription of Vijayaditya.

The Eastern Chalukyas, established at Vengi by a brother of Pulakeshin II and responsible for excavations north and south of the Krishna, embarked on a building career whose most significant surviving products, the 8th-century temples in and around Satyavolu, show some cross-fertilization between the influence of their confreres in the west and of their neighbours in the South.

The Cholas and their Contemporaries in the South (page 91)

In addition to the works cited in the general list above, see:

Balasubramanyam, S.R., *Early Chola Temples*, Bombay 1971; *Middle Chola Temples*, Faridabad 1975; *Late Chola Temples*, Faridabad 1979; 'Sri Vismangalesvar Temple at Turaiyur', *S.I.T.A.*;

Barrett, D., *Early Chola Architecture and Sculpture*, London 1974;

Harle. J.C., 'South Indian Temple Bases', *Oriental Art* 3, 1957; 'The Early Chola Temple at Pullamangai', *Oriental Art* 4, 1958; *Temple Gateways of South India*, Oxford 1963;

Nagaswamy, R., *Art and Culture of Tamil Nadu*, Delhi 1972; *Gangaikondacholapuram*, Madras 1970;

Natarajan, B., *The City of the Cosmic Dance: Chidambaram*, Delhi 1974;

Sarkar, H., *The Kampaharesvara Temple at Tribhuvanam*, Madras 1974;

Sivaramamurti, C., *The Chola Temples; Tanjavur, Gangaikonda-cholapuram and Darasuram*, Delhi 1960;

Soundara Rajan, K.V., 'Early Pandya, Muttaraiya and Irukkuvel Architecture', *S.I.T.A.*.

28. The canonical distribution of the major icons was Brahma, Vishnu and Dakshinamurti (or a popular local manifestation of the last two) in the north, west and south *ghana-dvaras* respectively, Durga and Ganesha in the north and south aedicules of the hall. The standardized arrangement of shrines for subsidiary deities was initially in a scheme of eight (*asta-parivara*) with a square *vimana* (*kuta*) for single deities like Surya, Subramanya, Chandra, Chandesha, Gyeshtha, Durga and Ganesha and an oblong one (*sala*) for *shakti* groups especially multiple ones like the Saptamatrikas. Later this was expanded to sixteen or even a maximum of thirty-four. Provision was now usually made for the evacuation of the libation fluids through a gargoyle-like spout projecting from the centre of the north side of Shaivite *vimanas*.

29. Usually one-storey with square or circular cupola, waisted in the later Pallava manner but rarely octagonal, and with a base of the familiar Pallava combination of low and high plinth slabs, faceted torus (*kumuda*) and recessed zone surmounted by a slab representing the floor level, the modest 9th-century shrines in the vicinity of Madurai at Vijayanarayanam, Kannanur, Korkai and Enadi well represent Pandya work. Examples of the Muttaraiyar school are to be found around Tiruchirapalli at Panangudi, Kaliyapatti, Kilattanaiyam, Visalur, Viralur and Kiranur. The Virattaneshvara at Tiruttani, with apsidal superstructure, conforms to this type though it was founded by the last of the Pallavas. After the Talinatha at Tiruppattur, with inscriptions of Varaguna Pandya datable to 868 and 872, the Valishvara of Tiruvalishvaram shows the Pandya trend towards elaboration of plan and elevation, as do the Chandrashekha at Tiruccendurai, the Sundareshvara at Nangavaram and Iravateshvara at Neman of the Irrukuvels and later Muttaraiyars. The Vijayalayacholishvara and Muvarkovil bear inscriptions that suggest mid- and late-9th century dates respectively.

30. As Barrett, *Early Cholas*, notes, little activity is attributable to Vijayalaya (806-870), but Aditya I (870-907) is credited in ancient records with an important series of stone temples along both banks of the river Kaveri – at Tiruchchatturai, Tiruvedikudi and Tiruvaiyaru for example. While many inscriptions seem to support this, the interpretation even of inscribed dates is controversial and stylistic considerations can hardly be conclusive at this early stage. Thus, for instance, at Sendalai in former Muttaraiyar domains the somewhat primitive four-storey Sundareshvara – unvaried in plane even by aedicules but with unique differentiated bases to its vimana and hall – was inscribed by both Pandyas and Cholas in the last quarter of the 9th century but has been variously attributed to the Cholas and the Muttaraiyars. The decidedly Pallavan three-storey Mahadeva (Gritasthaneshvara) at Tillaisthanam in the heart of Chola domains is, of all contenders, perhaps the most securely dated to Aditya's reign. Several temples have inscriptions that may be Aditya's in addition to others that definitely belong to his successor Parantaka I (907-949) including the Saptasthanas – seven sacred places on the Kaveri associated with a yearly Nandi ceremony perhaps best represented by the richly articulated Mahadeva at Tirupalanam. This is also the case at Kilaiyur, the seat of a Chola vassal.

Perhaps the most notable work usually dated to early in Parantaka's reign but bearing an inscription that may be assigned to year fifteen of Aditya (866) is the Nageshvarashvami at Kumbakonam. Two temples seem securely dated to not later than the first decade of Parantaka, but both have been variously attributed to the Cholas and the Irukkuvels: the two-storey Vatatirthanatha at Andanallur and the Chandrashekha at Tiruchchendurai – whose *vimana*, with shallow central projections, and simple rectangular hall have elegant bases incorporating *kumuda* and generous *padma* like the Muvarkovil of Kodumbelur. Comparable to these, though simpler in the treatment of the ground floor – and hence betraying no indication of progressive development across the period – are the Kâdambavaneshvara at Erumbur and the Tiruttondishvara at Tirunamanallur, both firmly datable to the last decade of Parantaka. The Brahmapurishvara at Pullamangai has an inscription of Parantaka year three (910). The certainly later Koranganatha at Shrinivasanallur, inscribed in Parantaka's twentieth year (927) may also be singled out as a masterpiece, not least for the quality of its sculpture, the clarity of its masses, the sumptuousness of its columns. The Gomukteshvara at Tiruvaduturai has an inscription which may be assigned to year twenty-five of Parantaka (932) and another which implies substantial reconstruction in 945. The Achaleshvara at Tiruvarur has an inscription of year seven of Rajaraja I (992) which attributes it to Queen Sembiyan Mahadevi.

31. The Gomukteshvara was closely followed by several comparable works but then activity fell off until the Umamaheshvara Temple at Konerirajapuram – founded, as its inscriptions relate, by Queen Sembiyan Mahadevi in the early 970s – initiated a series of similar temples, including those at Anangur and Tirukkodikaval. By about 981 the Chola architects had effected a synthesis between all the important features so far encountered: at a new village named after the Queen dowager herself, the Kailasanatha Temple retained the form of hall with six deities, revived the high and elaborate base of Tiruvaduturai and the rhythm of Pullamangai's rich articulation, though with extra aedicules in the intermediate recessions. Several temples of the period repeat the formula but with embellishment to the base and varied manipulation of the wall planes to accommodate up to sixteen deities. Others revert to the old alternative iconographical scheme, and this approach in fact becomes most popular again early in the new century after the demise of Queen Sembiyan Mahadevi and the emergence to prominence as patrons of the queens and sister of Rajaraja I (985-1014). The *Uttara Kailasa* built beside the Panchanadishvara at Tiruvaiyaru by Queen

Lokamahadevi in or about 1006, is a fine example. In the same year the king's sister Kundavai, in turn, was responsible for the superb and highly elaborate twin Shiva and Vishnu Temples at Dadapuram which are comparable in importance to the Achaleshvara of Tiruvarur.

32. The speed with which the Rajarajeshvara was expedited is legendary: usually thought to have been begun in about 1003, an inscription on the *vimana* records the presentatation of the *stupi* by the king in his twenty-fifth year (1010) and consecration would have taken place then. The first inscription referring to the Gangaikondacholishvara is dated to Rajendra's seventeenth year (1031); by his twenty-third year (1037) the king was bestowing lands on its priests but no inscriptions permit precise dating – surprisingly, the temple itself bears no inscriptions naming Rajendra at all. Itemizing the lavish royal endowments for the maintenance of the temple and the performance of its ritual, Harle, *Art and Architecture*, makes the point that they were 'meticulously set forth in inscriptions which became a virtual blueprint for the organization of the temple-cities of a later age' (page 316).

For speculation on the raising of the cupola see Volwahsen, *Living Architecture*, page 180f.

On the separate Amman shrines in south-Indian temples see below, page 100. On the significance of the *gopuras* see Harle, *Temple Gateways*. On inscriptional evidence Harle maintains that both the *gopuras* at Tanjavur were completed by 1014. As it is now known that the Pallava prototype was developed in the early Chola period – for example at Kilaiyur – it would seem best to discard the thesis that these Tanjavur works 'belong to that small class of buildings for which there are few if any precedents' (Harle, *Art and Architecture*, page 320). Not without justified astonishment Harle points to the incongruity of using the palace building type – let alone the typical *sandhara* temple *vimana* form of it – as the basis for the design of the *gopura* as a precinct gatehouse.

33. The Airavateshvara's inscriptions date it to the reign of Rajaraja II (1146–1172) and the Kampahareshvara's to Kulottunga III (1178–1218). A notable builder, Kulottunga III was also responsible for the impressive Nageshvarashvami *Natarajamandapa* at Kumbakonam, amongst many others.

Of the several temples in which the planning is clearly inspired by the great works of the imperial capitals, the Patalishvara at Brahmadesham, the Jaganatheshvara at Kulampandal and the Gopalashvami at Mannarkovil may be singled out. The Mannarkovil Temple, in former Pandya domains, has superimposed *garbha-grihas* like the Kanchi Vaikunthaperumal, but it is oblong and surmounted by an oblong cupola, as it had to accommodate Vishnu Vedanarayanar flanked by his consorts. By now octagonal or circular cupolas, often virtually obscured by highly florid dormers as in the Kailasapati at Gangaikondan, for instance, were the norm. However, in former Pallava domains, where such late Pallava works as the Virattaneshvara at Tiruttani remained an inspiration, the apsidal form was popular: the two-storey Vachishvara at Tiruppasur has an apsidal cupola, the Tripurantakeshvara at Kuram has a wholly apsidal superstructure and the Adipurishvara at Tiruvorriyur is apsidal through all storeys.

Post-Gupta Developments in the North (page 101)

In addition to the works cited in the general list above, see:

Deva, K., *Temples of North India*; 'Bhumija Temple', *S.I.T.A.*;
Dhaky, M.A., 'The Genesis and Development of Maru-Gurjara Temple Architecture', *S.I.T.A.*; 'The Western Indian Jaina Temples' in Shah and Dhaky, *Aspects of Jaina Art*;
Ghurye, G.S., *Rajput Architecture*, Bombay 1968;
Harle, J.C., 'The Post-Gupta Style in Indian Temple Architecture and Sculpture', *Journal of the Royal Society of Art*, 5253, 1977;
Jain, K.C., *Ancient Cities and Towns of Rajasthan*, Delhi 1972;
Meister, M: 'Jain Temples of Central India' in Shah and Dhaky, *Aspects of Jaina Art*, and 'Phamsana in Western India', *Artibus Asiae*, XXXVIII, 1976;
Pal, H.B., *Temples of Rajasthan*, Jaipur 1969;
Sompura, P.O., 'The Vastuvidya of Visvakarma', *S.I.T.A.*;
Tod, J., *Annals and Antiquities of Rajasthan*, Oxford 1829-32.

The Pratiharas (page 104)

In addition to the above, see:

Agrawala, R.C., 'Khajuraho of Rajasthan: The Temple of Ambika at Jagat', *Arts Asiatiques* X, 1964.
Bhandarkar, D.R., *The Temples of Osian*, (A.S.I., 1908-09), Calcutta 1912;
Deva, K., 'Extensions of the Gupta Art: Art and Architecture of the Pratihara Age', *Seminar on Indian Art History*, Delhi 1962; and 'Mala Devi Temple at Gyaraspur', *Shri Mahavir Jain Vidyalaya Golden Jubilee Volume*, Bombay 1968;
Kalia, A., *Art of Osian Temples*, Delhi 1982;
Tripathi, L.K., *The Temples of Baroli*, Varanesi 1975.

34. Due to the complex pattern of imperial and feudal power in north-west India between the Hun and Muslim invasions, Dhaky's distinguished essay, *Genesis*, avoids the type of dynastic label which, in this introductory context, I have adopted (at the risk of appearing simplistic in blurring real distinctions of school) in favour of the rather abstruse regional ones Maha-Maru and Maha-Gurjara. Dhaky identifies these as 'parents' of the Maru-Gurjara style, born at the end of the 10th century after a 'tense moment of intense, passionate embrace of the two leading styles of Western India, one virile and handsome, the other ornate and bewitchingly beautiful' (page 120). The legacy of the later Guptas and its influence on the main stream of early Pratihara works in most of modern Rajasthan, on the one hand, and that of the austere Maitrakas further south in much of what is now Gujarat, on the other, may be seen to account for differences in approach to ornament in the broadest sense, even permitting the latter to be described as more interested in structure, essentially architectonic, the former as given more to embroidery, essentially sculptural. But the difference is one of degree.

35. The main works at Osian are the three so-called Hari-Hara temples, two Surya, two Shiva and two Vishnu shrines, the Pipla Matha and the Mahavira, the latter dated in a later inscription to the reign of Vatsaraja (777–808). In the absence of any firm inscriptional evidence the other works at Osian (Maha-Maru) are generally assigned on stylistic grounds to Vatsaraja and his immediate predecessor or successor – i.e. roughly from 750 to 825. Hari-Hara I is considered to be amongst the earliest, Hari-Hara II and III roughly contemporary with the Mahavira, and the Pipla Matha amongst the latest. Comparable with the earliest of these works, Maha-Maru in Dhaky's terminology, are temples at Pipad and Mandor. Comparable with the latest in sculpture at least, are two relatively simple *tri-ratha* shrines at Buchkala, the foundation of one of which is firmly attributable to Pratihara Nagabhatta II in 815. Comparable with the Mahavira itself is the *sandhara* Harshat Matha at Abaneri.

The principal early works at Chittor (also Maha-Maru according to Dhaky) are the Kalika Matha, the Kumbhashyama and Kshemankari, the former datable from an incomplete inscription to the first half of the 8th century and possibly built under the Grahapati predecessors of the Pratiharas. The Kshemankari seems to be several generations later. It is generally thought that the works at Roda (the principal example of Dhaky's Maha-Gurjara first phase) were constructed shortly after the consolidation of Pratihara power in the area in the second half of the 8th century A.D. A contemporary work at nearby Shamlaji has more affinity with the Mahavira at Osian than with anything at Roda.

Amongst the earliest works attributable to Pratihara patronage in the vicinity of Gwalior are several simple works at Nareshvar, Bateshvar, Mahua and Amrol contemporary with the later works at Osian. A slightly later shrine at Terahi is richer, like those at Chittor. One rectangular shrine at Nareshvar anticipates the Teli-ka-Mandir which – on the less than secure ground of the style of its sculpture and the palaeography of its short inscriptions – is dated to the early-9th century reign of Mihira Bhoja, one of the greatest of Pratihara rulers. Closely related in articulation, but unorthodox in its basically circular plan, the contemporary Shiva Temple at Indor stands at the head of a series of similar works erected in north-central India over the next hundred years and culminating in the sixteen-sided, virtually circular, double-storey Shiva shrines at Chandrehe and Masaun. See note 40 below.

36. The Mala Devi Temple at Gyaraspur has been dated on the evidence of its inscriptions to the late-9th century and the Ghateshvara at Baroli is thought to be contemporary on stylistic grounds. Other works in central India related to these include the Jaraika Matha at Barvasagar, the Gadarmal at Badoh, the Chaturmukha Mahadeva at Nachna and the Surya temple at Mankheda. The Ambika Matha at Jagat has an inscription referring to repairs carried out in 981 which suggests that the date of its foundation might not implausibly be taken back at least a generation. It represents the late phase of Dhaky's Maha-Gurjara school and may be compared with the Harsanatha Temple at Sikar, a contemporary representative of Dhaky's Maha-Maru.

Related works are to be found at Kotai, Kerakot, Ahar, Ghanerao, Kekind, Nadol, Nagda, Unwas and Eklingji – the Durga Temple at Unwas and the Lakulisha at Eklingji dated respectivaly to 960 and 972. At Kiradu the two most important works are the Vishnu Temple datable on stylistic grounds to later in the 10th century than the dated works at Unwas or Eklingji, and the Someshvara assignable to the next generation (c.1020).

The Solankis (page 109)
In addition to works listed under Post-Gupta Developments see:
Burgess, J. and Cousens, H., *Architectural Antiquities of Northern Gujarat* (A.S.I.), London 1903;
Cousens H. *Somanatha* (A.S.I.), Calcutta 1931;
Dhaky, M.A., 'The Chronology of the Solanki Temples of Gujarat', *Journal of the Madhya Pradesh Itihasa Parishad* 3, 1961, and with Shastri, H.P., *The Riddle of the Temple of Somanatha*, Varanesi 1974.

37. The Surya Temple at Modhera is datable from an inscription to 1026. Amongst the works following it, and comparable in quality if not in scale, are the Kedareshvara at Prabhas Patan, the Someshvara at Gorad, the Shiva Temple at Sander, the Matha Temple at Dhinoj, the Limboji Matha at Delmal and the Nilakantha at Sunak. Other important later Solanki sites include Viramgam, Khandaran, Ashoda, Kanoda, Kamboi, Piludra and Ruhavi.

38. The foundation of the Vimala-Vasahi at Mount Abu may be dated to 1031 and that of the Luna-Vasahi to 1230 on inscriptional grounds. The Dharana-Vihara at Ranakpur was founded about 1440. The Salindheshvara at Chittor was built in the 15th century, probably on an earlier foundation.

The Chandellas and their Neighbours (page 115)
In addition to works listed under Post-Gupta Developments, see:
Anand, M.R., Fabri, C., Kramrisch, S., *Homage to Khajuraho*, Bombay 1962;
Chandra, P., 'The Kaula-Kapalika Cults at Khajuraho' *Lalit Kala* 1-2, 1955-56;
Deva, K., *Khajuraho,* Delhi 1980;
Lal, K., *Immortal Khajuraho*, Delhi 1967;
Nath, R., *The Art of Khajuraho*, Delhi 1980;
Prakash, V., *Khajuraho, A Study in the Cultural Conditions of Chandella Society*, Bombay 1967.

39. Including sites like Bharhut, Bhumara, Nachna and Deogarh, Jejakabhukti, (later Bundelkhand), was already rich in cultural achievement. Apart from Khajuraho, the major strongholds of the Chandellas included Kalanjar, Ajaigarh, Madanpur, Dudahai, Chandpur and Mahoda, once their capital.

The first great Chandella ruler to assert some measure of independence was Yashovarman I (Lakshmana-varman) and he commemorated his defeat of the Rashtrakutas – according to an inscription of his son Dhanga – by commissioning the Lakshmana. Mountain imagery is made explicit in this inscription's description of the temple as the home of the god 'which rivals the peaks of the mountains of snow'. The other temples bear inscriptions of their respective founders.

Though the Khandariya was followed by several fine smaller works – notably the Jaina Chaturbhuja and Vamana – they generally break no new ground. On Khajuraho's last important structure, the Duladeo, see below, page 121.

40. The Sas-bahu Temples in Gwalior fort are attributable to the late-11th century rulers Padmapala and Mahapala. From both the *shikharas* have disappeared, but they doubtless followed the Sekhari form of such earlier Kachchhapaghata works as the Kakanmadh Temple at Suhania.

The most celebrated temple in Kalachuri domains is, perhaps, the 10th-century Shiva one at Chandrehe with its extremely rare 'circular' *mulaprasada.* Typical of later work, the Virateshvara at Sohagpur has a lower platform than most at Khajuraho but its socle, dado and triple-register walls, its seven-bay *mulaprasada* with ambulatory, its closed hall with balconies, its tall and elegant Sekhari *shikhara,* reflect even the decorative themes of the Chandellas. From a huge Shiva shrine at Gurgi near Rewa, only a spectacular *torana* and colossal image of Shiva-Parvati survive as clues to its size and quality. See Ali, R., *Art and Architecture of the Kalacuris,* Delhi 1980.

The Paramaras and their Neighbours (page 119)
In addition to works listed under Post-Gupta Developments, see:
Cousens, H., *Mediaeval Temples of the Dakhan* (A.S.I.) Calcutta 1931;
Verma, O.P., *A Survey of Hemadpanti Temples in Maharashta*, Nagpur 1973.

41. The Udayeshvara bears an inscription recording its foundation in 1059 by Udayaditya. The Bhumija mode, however, probably emerged at least a century earlier. To Krishna Deva, 'Bhumija' in *S.I.T.A.*, the mutilated remains of the original structure of the Amareshvara Temple at Onkar Mandhata, which seems to date from the mid-10th century, indicate that the *mulaprasada* was originally stellate in plan with projections bearing characteristically Bhumija miniature *shikharas* on piers. The Udayeshvara was the model for most later Malwan works ranging from the smaller, simpler ones in the near contemporary group at Un to the Shiva Temple at Alirajpur of some three centuries later. The builders of the Siddheshvara at Nemawar attempted a revision of the proportions with a nine-storey *shikhara,* over a seven-storey, star-shaped plan but their work remained unique. The alternative approach to planning was tried shortly after the Udayeshvara for the small Shiva Temple at Jamli but it was not to prove popular in Malwa.

42. An inscription on the Ambaranatha Temple at Ambarnath, datable to 1060, records that that shrine was built by a Shilahara chief, Mamvani, who ruled the northern Konkan as a feudatory of the Later Chalukyas of Kalyani but mantained close relations with the Paramaras.

43. Other important Yadava works are to be found at Balsane, Jhodga, Satgaon and Sakegaon – apart from Aundha and Lonar where the Daitya-Sudâma is outstanding. The star-shaped plan appears notably also at Balsane. The Yadavas are often chiefly associated with the so-called Hemadpanti series of temples: Hemadra was the minister of Mahapala and Ramachandra, who reigned in the half-century from 1260 to the advent of the Delhi Sultan Ala-ud-din Khalji. The extent of his activity as a patron of temple building is legendary but difficult to substantiate. The works attributed to him are much more austere than those of their precursors in the area. The Kashivishishvanata at Ambejagai, the Rameshvara at Pedagaon, the Mahadeva at Bori and the Narasimha at Chasthane may be taken as representative. With five- or seven-storey *mulaprasadas,* without the equilateral projections upon which the Bhumija mode was based, they dispense with external embellishment – perhaps to avoid the attention of Muslim iconoclasts, rampant in the Deccan. N.B. the typical disparity between inner and outer hall roof in Gondeshvara section, figure 138.

44. The Duladeo, sited to the south of the modern village of Khajuraho, is datable from inscriptions to the first half of the 12th century.

The most notable Kalachuri Bhumija work is perhaps the unique Jaina Temple at Arang which has six main projections each separated by triple intermediate ones.

45. According to Krishna Deva the star-shaped, triple-shrined Shiva Temple at Limkheda, contemporary with the Udayeshvara, marks the

earliest of the Bhumija's rare appearances in Gujarat, another is the unusual seven-storey Galateshvara at Sarnel with eight main projections separated by pairs of intermediate ones.

In Rajasthan the Bhumija mode made its first important appearance in several works contemporary with the Udayeshvara, notably the Mahanaleshvara at Menal which has an orthogonal, five-bay *mulaprasada*. This is comparable in the elaboration of its base and walls with other Solanki-influenced works of mid-11th century Rajasthan. The large early-12th century Shiva Temples at Bijolia and Ramgarh, with star-shaped *mulaprasadas*, are also typical of West-Indian luxury: the nine-storey Bijolia Temple is perhaps a happier attempt at enhanced height than the one at Nemawar, due to the more substantial socle and the omission of the miniature shrine from the pillars of the two lowest storeys. At Ramgarh the Devi shrine has bands of enmeshed niches over both principal and intermediate projections, separated by pillars bearing two distinct types of miniature *shikhara*. This may be seen as the cross-fertilization of the Bhumija and Latina types of *shikhara*. The Surya Temple at Ranakpur dates from the 15th century; a precedent for it may be found in the 11th-century Surya Temple at Jhalrapatan.

Orissa (page 122)

In addition to works listed under Post-Gupta Developments see:

Boner and Sarma *op.cit.* and *New Light on the Sun Temple of Konarak*, Varanesi 1974;
Dehejia, V., *Early Stone Temples of Orissa*, Delhi 1979;
Donaldson, T.E., 'Propitious-Apotropaic Eroticism in the Art of Orissa', *Artibus Asiae* 37, 1975;
Gangoly, O.C., *Orissan Sculpture and Architecture*, Calcutta 1956;
Lal, K., *Miracle of Konarak*, Delhi 1967, *Temples and Sculptures of Bhubaneshwar*, Delhi 1970;
Mitra, D., *Bhubaneshwar*, Delhi 1966; and *Konarak*, Delhi 1968;
Panigrahi, K.C., *Archaological Remains at Bhubaneshwar*, Bombay 1961.

46. No known inscription attributes any temple to a particular royal patron until relatively late in the history of Bhubaneshwar. Orissa's principal site. The mother of the Somavamshi king Uddyotakeshari recorded her foundation of the Brahmeshvara Temple in the eighteenth year of the reign – this is generally placed in the middle of the 11th century, though the lack of a firm dynastic chronology leaves the matter open to dispute – and the daughter of the Ganga ruler Anantabhimadeva III recorded the dedication of the Ananta-Vasudeva in 1278 A.D. Apart from these the foundation of the Maheshvara at Bhubaneshwar is recorded by the Commander-in-Chief of Ganga rulers whose reigns may be assigned to the last three decades of the 12th century. The analysis of both content and script of non-foundation records in the Parashurameshvara, Vaital and Kedareshvara permits their dating: the first two to the periods before and after the advent of the Bhauma Kharas, i.e. late 7th and mid to late 8th centuries respectively, and the last to the early Ganga period, towards the middle of the 12th century.

Understandably, however, the religious persuasion of the rulers does seem to have some bearing on building activity. Thus, while Buddhist remains are extensive and derive from long established tradition it is possible to connect the late activity at the rich site at Ratnagiri, with the early-8th century advent of the Bhauma Karas whose early rulers were all followers of the Mahayana. All the important rulers of Orissa before the Gangas were Shaivite, except the early Somavamshis who were devotees of Vishnu and only a handful of the hundreds of surviving pre-Ganga Hindu shrines in Orissa are Vaishnavite – apart from several *shakti* shrines, the rest are Shaivite, many associated with the early Pashupata sect of Lakulisha.

With mastery of the material, figure sculpture seems to progress from a rigidly frontal conception, which ill-accords in particular with the sensual significance of the shakti images, through a growing comprehension of anatomy and facility in representing it even foreshortened, to a refined and supple maturity. The vitality of the figures and the plausibility of their ambience is conveyed, no matter how shallow the depth of relief. These developments, furthermore, may be correlated with the progressive stylization of niche forms, *purna-kalasha* and *kirttimukha*, and with such changes in iconographical detail as the nature of the mounts of subsidiary deities or the addition of a ninth planetary deity to lintel compositions.

Of the written material, several relatively late Sanskrit chronicles, particularly the *Ekrama Purana* of no earlier than the 14th century, are of limited value as historical documents but give useful information on the names and location of Bhubaneshwar's shrines. Far more important are some five recensions of the *Shilpa Bhuvanapradipa* dealing with temple types that appear mostly in the mature phase of Orissan architecture after the opening of the second millennium A.D., and three late copies of the much earlier *Shilpa Prakasha* detailing various types of temple which emerged in the last three or four centuries of the first millennium. The latter identity as most important two *'rekha'* types with square sanctuaries, and two *'khakhara'* types with rectangular sanctuaries for dedication to the *shakti* cult. The difference between the two types in each case relates to whether the sides have three or five bays. In both *'rekha'* types the *shikhara* is basically Latina with five vertical divisions. In the three-bay type the superstructure is of diminishing tiers of cornice mouldings supporting an oblong shrine form but in the five-bay variety the incorporation of much more varied architectonic forms reflects the vigorous indentation of the walls below. In Orissa the hall is called *jagamohana*; when crowned by receding slabs (*pidhas*), like a Phamsana, it is a *pidha deul* as distinct from the *rekha deul* of the *mulaprasada*.

47. Some eight shrines at Bhubaneshwar seem to belong to the early phase represented by the Parashurameshvara – including the Shatrugneshvara group, the Svarnajaleshvara and Mohini. Comparable works at Kualo, Jajpur, Paikapada, the Amangai temple on an island in the Mahanadi, and the Singhanatha at Bhubaneshwar may still be seen as of three bays but the projections have greater weight, the piers flanking the aedicules of the base plane are distinguished in relief, the more prominent inner ones providing support for the intermediate projections of the *shikhara*, and the major verticals are continued down into the socle where the *purna-kalasha* permutation of the *kumbha* appears. Other related works include temples at Sukleshvar, Bajrakot, Mohanagiri, Rampur, Borogram and a Buddhist monastery at Ratnagiri.

48. The twin Shiva and Vishnu Temples at Grandharadi in the Mahanadi and the Tirtheshvara at Bhubaneshwar offer no significant innovations in planning over the works so far encountered. Yet the appearance of pilasters entwined with *nagas* by the windows and doors and a *kalasha* amongst the base mouldings suggest that they are the latest of the series. The eight-shrine Pataleshvara at Paikapada shares this form of base but retains the now somewhat antiquated three-bay scheme for its subsidiary shrines. However, it has a *shikhara* of superimposed slabs like the not-far-distant one at Mukhalingam and, more significantly, six receding slabs cover the hall – they fall short of achieving an apex but break forward over balconies and porch.

At Mukhalingam, the capital of the early Eastern Gangas to the south of Kalinga, is an exceptional complex, perhaps contemporary with the Vaital if not early-9th century. It is best dealt with here because it combines elements from the treatise prescription for both square and rectangular formal types and recalls the Vaital in such distinctive features as the miniature solid *vimanas* on the corners of the hall, in iconography and in the quality of its sculpture. It is tempting to see in it an immature stage in the synthesis of precisely those influences which produced the early works of Bhubaneshwar, with which it has much in common. An eight-shrine complex, its walled compound is entered through two slab-roofed *gopuras* in the east; the four subsidiary square shrines in the corners of the court and the three oblong ones at the cardinals conform to the types defined by the *Shilpa Prakasha* but the principal *mulaprasada*, with socle like the Parashurameshvara, has unrelieved walls and a three-bay *shikhara* of receding slabs, like several at Aihole. The aisled hall with flat roof and clerestory is juxtaposed directly to the mulaprasada but unlike the latter is richly relieved with icons and has a sumptuous portal with *purna-kalasha* pilasters See:

Barrett, D., *Mukhalingam Temples*, Bombay 1960;
Masthanaiah, B., *The Temples of Mukhalingam*, Delhi 1978.

49. The Mukteshvara's aedicules are empty, but elsewhere the iconography differs in several respects from that of the temples so far encountered – Ganesha, for instance, appears now with a mouse as mount and the lintel over the main door has nine, rather than eight, planetary deities. The *mithuna* panels of the Varahi's outer bays include representations of the eight stages of ritual love-making as described in the Tantras – one depicting the sexual initiation rites of a Tantric sect known to have been supported by the Somavamshis, in which Surya played an important part.

A unique complex of shrines is situated on the edge of the Somavamshi's original domains at Baudh, closely related to the Mukteshvara and Gauri Temples in articulation and detail, but with star-shaped plans unique in the region. This complex and the Gauri Temple were dedicated to Tantric cults. It seems not improbable therefore, that the culmination of five-bay articulation was achieved after the advent of the Somavamshis in the mid-10th century and they may also have imported the pyramidal form of roof for the hall. Local tradition, incidentally, credits the Mukteshvara to the second Somavamshi ruler, Yayati I (c.950-957). On the interval evidence of its forms the Varahi may be placed earlier in their era, the Gauri hardly much later than the Mukteshvara itself.

50. The chronicles of the Jagananatha at Puri credit the foundation of the Lingaraja to a monarch most convincingly identified with Yayati II (c.1020-40) whose queen is referred to in their son's Brahmeshvara foundation inscription (see section 2, note 46).

51. The Ananta-Vasudeva, datable to 1278, is the main contribution to Bhubaneshwar of the Vaishnavite Gangas. It has a cruciform platform, three subsidiary shrines at the cardinals of the *mulaprasada* and, as in many other examples including the Lingaraja, the scheme was augmented with open pavilions for feasting and dancing. A monumental free-standing pillar bears the god's *vahana*. Amongst several comparable works of the Gangas, the Megheshvara, datable from inscription to the late-12th century and the Parvati Temple in the Lingaraja compound may be singled out.

Alice Boner, *New Light*, has shown that the temple at Konarak took twenty years to build and was finished for consecration on Surya's birthday in 1258. The site was geologically unstable and the work seems to have been badly founded. On the removal of the copper finial by the Muslims in the 17th century, breaches in the upper masonry led to decay. This was furthered by the depredations of the local populace until 1901 when a conservation programme was launched.

The Later Chalukyas and Hoysalas (page 129)

In addition to the works cited in the general list above, see:

Anand, M.R. and Del Bonta, R.A., 'In Praise of Hoysala Art' (*Marg* 31), Bombay 1977;

Cousens, H., *Chalukyan Architecture of the Kanarese Districts* (A.S.I.), Calcutta 1926, and *Mediaeval Temples of the Dakhan;*

Dhaky, M.A., *The Indian Temple Forms in Karnata Inscriptions and Architecture*, Delhi 1977;

Maity, S.K., *Masterpieces of Hoysala Art: Halebid, Belur and Somnathpur*, Bombay 1978;

Narasimhachar, L., *A Guide to Halebid*, Mysore 1950;

Narasimhachar, R., *The Kesava Temple at Somanathpur*, Bangalore 1917, *The Kesava Temple at Belur*, Bangalore 1919, *The Lakshmidevi Temple at Dodda-Gaddavalli*, Bangalore 1919;

Rea, A., *Chalukyan Architecture*, Madras 1896;

Sarma, M.R., *Temples of Telingana*, Hyderabad 1972;

Seshadri, M., 'Hoysala Temple Architecture', *The Hoysala Dynasty* (ed. Sheik Ali), Mysore 1972;

Soundara Rajan, K.V., 'Main Trends in the Hoysala Temple Style',
The Hoysala Dynasty (ed. Sheik Ali), Mysore 1972; *Early Temple Architecture in Karnataka and its Ramifications*, Dharwar 1969.

52. Perhaps the oldest work at Kukkanur, still sandstone, is an essentially organic, if partially axial, grouping of nine shrines about four *mandapas* called the Navalinga. Each shrine has a *vimana* which, though more prolifically ornamented than those of Pattadakal and with central projections carried through from the ground floor to the waisted *shikhara*, is still essentially southern. The pillars of the hall, too, with square shafts sometimes alternating with octagonal drums, develop the capital type found in the Virupaksha Nandi-pavilion and the Jaina temple at Pattadakal. Undated, it remains possible that the earliest works usually attributed to the Later Chalukyans may have been the product of an uncharacteristic flurry of building activity by the late Rashtrakutas.

53. The original shrine of the great Trikuteshvara at Gadag is comparable to the Jaina temple at nearby Lakkundi. A second shrine, with an impressive cruciform, open hall, and the Sarasvati Temple aligned with it, seem to have been added in the first half of the 11th century. Of other notable early- or mid-11th century works, the Kalleshvara at Huvinahadgalli, the Galageshvara at Galagnatha (with its astonishing pyramidal socle) and the triple-shrined temples at Magala and Haralhalli may be singled out as comparable to the Siddheshvara at Haveri which is dated to about 1068.

54. The Mahadeva Temple at Ittagi is dated to 1112 from its inscriptions. The Kashivishveshvara bears an inscription of Vikramaditya VI datable to 1087, but this is on the plainest part of the extant structure – the porch facing the subsidiary shrine over the open court. It is possible that, having suffered in Chola raids of the late-11th century, the temple may have been rebuilt by the Hoysalas after they established a capital at Lakkundi in 1191.

The continuity of planning throughout the history of Later Chalukyan architecture is remarkable, even apparently unique divergences being variations on the theme – the Chandramukeshvara at Unkal, for instance with four porches to its *vimana* but no hall, or the Chaturmukha at Gasappa with no *vimana* but its open hall partitioned to form the *garbha-griha*.

55. The Chenna-Keshava is datable from inscriptions to 1117. The Lakshmidevi at Dadda Gaddavalli, which clearly indicates the debt of the Hoysalas to the Chalukyas, may be dated to 1113. The triple shrine Narayanashvami Temple at Ane-Kannambadi of the mid-12th century is a fine example of Later Chalukyan and northern Deccani influence combined. Such works lack the sculptural exuberance so characteristic of the mature Hoysala style.

The Hoysaleshvara at Halebid seems to be not much earlier than the triple-shrine Keshava Temple at Nagamangala and the Budheshvara at Koravangala, which may be dated in the early 1170s. The Keshava Temple at Somnathpur is datable to 1268.

56. Somewhat greater clarity is achieved in the no less lavishly ornamented, if smaller, Kedareshvara at Halebid: now completely star-shaped, the pilasters framing the bays and supporting the valance-like *chadya* over the porches are clearly delineated, though the icons spill out from the latter and obsure much of their shafts. The Lakshmi-Narasimha at Nugihalli which may be dated to c.1249 follows suit in so far as the ordonnance is concerned but it reverts to a three-bay plan with balconies before the central projections: the well-preserved superstructure over one of its three shrines is comparable to Chalukyan works of the previous century, the miniature cell forms tending to lose their identity behind lavish ornament.

The Fort (page 142)

57. Of the limited literature on India's secular buildings apart from the general works listed above (Tod, Toy and Begde in particular), see:

Goyal S., *Chittorgarh*, Udaipur 1983;

Haig, T.W., *Historic Landmarks of the Deccan*, Allahabad 1907;

Jain, K., 'Jaisalmer, India: Morphology of a Desert Settlement', *Architecture and Urbanism* 8 1986;

Jain, K.C., *Ancient Cities and Towns of Rajasthan*, Delhi 1972;

Mate, M.S., 'Daulatabad: Road to Islamic Archaeology in India', *World Archaeology* XIV, 1983;

Nagaswamy, R., *South Indian Studies* (I,II), Madras 1978, 1979;

Ranade, M.G., *Rise of Maratha Power*, Bombay 1900;

Rao, M.R., *Glimpses of Dekkan History*, Bombay 1951;

Sinha, S.K., *Mediaeval History of the Deccan*, Hyderabad 1964;

Yazdani, G., *The Early History of the Deccan* (2 vols), London 1960.

I am indebted to Toy for the plans of fort gates.

3 Thirteenth Century A.D. – Eighteenth Century A.D.

The Pattern of Patronage (page 149)

In addition to the general works listed above, page 306, see the invaluable contemporary accounts, in particular Ferishta, M.K., *History of the Rise of the Mohammadan Power in India* (trans. from the 17th-century Persian by Briggs, J.), London 1829; Babur: *Babur-nama* (trans. Beveridge, A.S., in 2 vols), London 1921; Begam Gulbadan: *Humayun-nama* (trans. Beverage, A.S.), London 1902; Fazl, Abdul, *A'in-i-Akbari* (trans. Blockman, H. and Jarrett, S. in 3 vols), Calcutta 1893; Jahangir: *Tuzuk-i-Jahangir* (trans. Rogers, A. and Beverage, H. in 2 vols), London 1909; Bernier, F., *Travels in the Mogul Empire AD 1656-1668* (trans. Constable, A., rev. Smith, V.), Oxford 1914; Tavernier, J.B., *Travels in India 1640-47* (trans. Ball, V. and Crooke, W.), London 1925; Paes, D. and Nuniz, F., *The Vijayanagar Empire* (trans. from the 16th-century Portuguese by Sewell, R.), reprint Delhi 1977. For a popular account see also Gascoigne, B., *The Great Moghuls*, London 1971.

1. As Nath, R., 'Mughal Concept of Sovereignty', *Indica*, 9,1974, maintains, Akbar's assertion of a thoroughly Indian legitimacy, amounting to Divine Right – for which Sher Shah's assertion of his own inherent authority over an essentially secular state paved the way – is at variance with the orthodox Sunni theocratic dogma that the indivisible authority to sustain the indivisible polity of Islam was vested in the elected Caliph. On the other hand, it was not inconsistent with the Shi'ite ideal of the Imamate, enshrining the age-old Persian commitment to the institution of Grace and its transmission through linial descent, which, despite their humiliation at the hands of their hosts, Humayun and his followers brought back to India with them from the Safavid court. Personally endowed with the mandate of heaven like a *Chakravartin* – 'King by the eternal will of God, ...in this world the shadow of the Light of God's being', as an inscription on the south gate of Akbar's tomb at Sikandra has it – it is scarcely surprising that the Great Mughal embellished his works with both ancient Indian and Persian symbols of kingship. As integers of a secular ideal, these must also be seen as snubbing the conservative clergy – who would have found such claims impious, if not blasphemous – and certainly not as providing the basis for claims to Hindu authorship of Mughal masterpieces such as those presented, against the promptings even of common sense, by the chauvinist revisionist school of Hindu historians.

Islam and Muslim Building Types (page 152)

2. Dictated, the Koran is considered by Muslims to be incomparable to the inspirations of earlier prophets (*hadith*), though the Judaeo-Christian prophetical tradition is admitted as supplementary. As the purpose of Muhammad's prophethood was to transcribe God's dictation, his script making God's word visible, calligraphy is central to Islamic art – indeed along with geometric and stylized floral patterns, calligraphy is the chief form of Islamic ornament, the Koranic prohibition against idolatory usually though not necessarily, being taken as proscribing the use of animal forms.

As religious and secular authority stemmed from a single source in Islam, the *minbar* takes the form of an elevated, canopied throne with steps before it, the prayer leader (*imam*) delivering his sermon from one of the steps to leave the throne vacant as the seat of absent authority – Muhammad's successor, the Caliph.

3. Prominent early examples of mosque planning reflect the two basic approaches, without and with *qubba*: the former is found in the early-8th century rebuilding of the Prophet's mosque at Medina; the latter in the contemporary conversion of the Byzantine church of St John the Baptist, itself converted from an Antique temple, at Damascus. At Medina the verandah was developed into an essentially trabeated, though arcaded, hypostyle hall. At Damascus the colonnades of the Antique *temenos*, providing *riwaqs*, were augmented for the prayer hall, a lateral interpolation before the *mihrab* which apparently incorporated a *qubba* from the outset and introduced pointed arches. The great dome at Damascus is not original, but in early examples elsewhere transition from square to circle is effected by squinch arches thrown across the corners and backed by semi-domes, sometimes cusped in the manner of Antique scallop-shell niches. The architects of Damascus, if they did not actually initiate the evolution of the minaret, gave considerable impetus to it in adapting the corner towers of the church precinct to the purpose, and their example seems to have been followed quickly at Medina.

4. The earliest known *madrasa* was founded in 947 at Nishapur in Khorasan, the principality of the Seljuks who descended later in the century to eclipse the Abbasids and counter growing Shi'ite influence with a vigorous programme of re-education in Sunni orthodoxy. The form achieved prominence with the Nizamiya in Baghdad by the great Seljuk Nizam-ul-mulk in 1065. The cruciform plan, with four *iwans* catering for the Sunni schools of law, appeared perhaps for the first time in the Nizam's late-11th century foundation at Khargird.

Orders of monks (*sufis*) devoted to various mystical permutations of the faith, formed about individual holymen. Inspired by the Prophet's occasional habit of retreat, *sufis* at first lived in isolated hermitages (*khanqahs*) but followers added cells to these and monasteries emerged, the earliest ones apparently domestic in form and scale, the later ones modelled on the *madrasa*.

The early-12th century *minars* at Sarvistan and Isfahan may be taken as representative of the monumental free-standing cylindrical tower in diminishing stages with galleries. A related development produced the tomb-towers of such remote dynasties as the Ziyairds and their successors. Now ruined, the early 12th-century *minars* at Ghazni derive from the tomb-tower form. They seem to have had at least three diminishing stages, octagonal, stellate and circular. At Jham, the great *minar* has a domed cupola and three tapering cylindrical stages with bands of bold glazed calligraphy honouring Sultan Ghiyas-ud-din (1163-1202), its founder, as the 'Glorifier of Islam'.

5. There is no conclusive evidence for any of this in India before the 14th century. References to *agni-curna* (a compound of saltpetre, sulphur and charcoal) in the late treatise known as the *Sukranitisara* have led to extravagant claims for early India to the invention of gun-powder notably by Opert, G., *On Weapons, Army Organisation and Political Maxims of the Ancient Hindus with Special Reference to Gun Powder and Fire Arms*, Madras 1880. With sage reasoning Date, G.T., *The Art of War in Ancient India*, London 1929 and Ramachandra Dikshitar, V.R., *War in Ancient India*, London 1944, dismiss these claims. The probability that the reference was interpolated after the advent of the Muslims has not been discounted and no conclusive references to the use of fire-arms in India appear until the 14th century. Indeed had guns and gunpowder been known in ancient India, it is inconceivable that they would have gone unremarked by all the foreign travellers who left accounts of pre-Muslim times. Ferishta, court historian to Ibrahim Adil Shah II of Bijapur in the early-17th century, claimed that artillery was first used in the Bahamani campaign against Vijayanagara in 1365. On this subject, as on much else, Begde, *Forts and Palaces*, rules himself out of court with his crassly unobjective chauvinism.

Seat and Sanctuary before the Mughals

The Delhi Sultanate (page 156)

In addition to general works listed above (particularly of Brown, Kamil, Khan, Nath, Reuther, Wetzel and Saraswati, S.K., 'The Delhi Sultanate' in Majumdar *History, etc.*, see:

Carr, S., *The Archaeological and Monumental Remains of Delhi*, Calcutta 1876;
Cole, H.H., *The Architecture of Ancient Delhi*, London 1884;
Fanshawe, H.C., *Delhi Past and Present*, London 1902;
Hearn, G.R., *The Seven Cities of Delhi*, London 1906;
Munshi, R.N., *The History of the Qutub Minar*, Bombay 1911;
Sharp, H., *Delhi: Its Story and Buildings*, Delhi 1921;
Spear, T.G.P., *Delhi: An Historical Sketch*, Bombay 1945.

6. An inscription of 1192 on the eastern entrance records that material from twenty-seven temples was used to construct the Quwwat-ul-Islam and another dates completion to 1197. The arcaded screen is slightly later. The Arhai-din-ka Jhompra at Ajmer was founded in 1200. The

titles of Qutb and his Ghurid master appear in inscriptions on the lowest level of the Delhi *minar* along with dates corresponding to 1199 and 1202, a eulogy of Qutb's successor Iltutmish and a record that he commanded the minaret's completion appear in the next two stages but the fourth storey, in its present form, is due to Ala-ud-din-Khalji, the fifth to Firoz Shah Tughlaq and subsequent restoration.

7. It is probable that the subsidiary compound to the south-west of the Quwwat-ul-Islam Masjid was added under Iltutmish – the identification of its central chamber as the tomb of Ala-ud-din Khalji seems doubtful as the handling of its vault is less sure than other works of that time and the roofing of the adjoining ranges is still Hindu, but the arches – still ogee – have true voussoirs possibly for the first time in India. Attempts to associate this complex with the tradition – recorded by Firoz Shah Tughlaq – that Muhammed Ghuri was buried in Delhi, remain inconclusive. Iltutmish's eldest son Nasirud-din Mahmud died in 1229. Iltutmish's own tomb was probably completed before his death in 1236.

8. An exception amongst the later Mamluks was Balban, who survived for twenty-one years as Sultan (1265-86) after twenty-one years as the foremost officer of state. Yet even he left few significant monuments apart from the Jalali Masjid at Aligarh and the Dar'ul-Aman in Delhi, and little survives of his work on either. The latter, called 'the bed and resting place of great men' by Firoz Shah Tughlaq, who restored it, seems to have been built as a sanctuary from the royal power to placate the clergy, but it was also a burial place for the great, including Balban himself. Its structure incorporates precocious examples of the true voussoir arch.

9. Baha-ud-din Zaqaria died in 1262, Shadna Shahid in 1270 and Shams-ud-din Tabrizi in 1276. The tomb of Sheikh Rukn in Multan was executed between 1320 and 1324.

10. The Begampuri mosque, now called after its modern village, is usually attributed to Muhammad's successor, Firoz Shah, though Firoz moved the capital again and it seems implausible that in a reign lasting for more than a quarter of a century, Muhammad himself would have failed to endow his capital with its principal congregational mosque. Near the mosque, incidentally, a considerable amount is left of a private, but imposing, courtyard house and of the seven-arched barrage ('Sath Pol') of an artificial lake.

11. Of the many tombs built in and around Delhi which derive from the Tughlaq type, the red sandstone and white marble Lal-Gumbad of Sheikh Kabir-ud-din Auliya (1397, near Malaviyanagar) may be singled out as closer to the prototype than that of Firoz himself: however its markedly battered walls are relieved only by the frontispieces – which incorporate arcuate and trabeated openings – and the almost conical dome sits uncomfortably low. After various experiments – as, for instance, in the so-called 'Baradari' at Hauz Khas where a great *iwan* arch is expanded across most of the facade to frame an arcaded screen wall – works like the Poli-Gumbad (between Green Park and Hauz Khas) revert to the example set by Firoz's own tomb, dispensing with a pronounced batter to the walls and raising a taller, more broadly curved dome over a higher drum. Apart from the ubiquitous *chattri*, this was to be the basic form of tomb popular with the nobility under succeeding dynasties. See Wetzel *op.cit*.

12. The Tilanganis' mosques at Nizam-ud-din and near the Turkoman Gate are datable from inscriptions on their east entrances to 1370 and 1387 respectively; the Khirki Masjid was founded in the mid-1370s. The arrangement of courts in the Kalan Masjid of Nizam-ud-din and the Khirki Masjid recall, perhaps, the great Jaina shrines of the period.

Gujarat (page 173)
In addition to the general works listed above see Burgess, J., *Ahmadabad Architecture* (A.S.I.), (2 vols), London 1900, 1905.

13. The mid-12th century Solah Khamba Masjid of Bhadreshvar, with its mandapa-like hypostyle portico unusual elsewhere in Muslim India, is the oldest significant Indian Muslim building to survive virtually intact. According to contemporary accounts the great mosque of Patan – destroyed by the Marathas in the 18th century – was an improvised structure, converted from a temple in 1305. Equally improvisatory, the surviving tomb of Sheikh Farid is clearly a *mandapa* converted by the insertion of screens between the outer columns. Hindu materials, too, were largely used for the Jami-masjid at Broach, though they were reassembled in a specially erected compound in accordance with the tradition of mosque planning descending from the Prophet's mosque at Medina. Here, three *mandapas* complete with corbelled ceilings were lifted from Hindu temples and integrated to form one hypostyle hall; the enclosure is pierced with screens and the three *mihrabs*, like the main entrance to the court, are adapted from temple portals.

In the Hilal Khan Qasi Masjid at Dholka the hypostyle hall is composed of five ranges and another great hall forms the eastern portico; the prayer hall has an arcaded screen, which, alien to the tradition of the region but recalling the Jam'at Khana at Nizam-ud-din, may well have been built by Delhi masons. The roughly contemporary, but much more sumptuous, prayer hall of the Jami-masjid at Cambay – the Gujarati capital for some years in the first half of the 14th century – is even more closely related to the Jam'at Khana but as in the works of Iltutmish, the arcades reveal Hindu workmanship and pillars with flying-arches support elaborate and varied ceilings. Beyond this mosque's south range of cloisters, the tomb of Omar bin Ahmad al Kasaruni (died 1333) is a great two-storey, octagonal pavilion rivalling those in the fabulous temples of Siddharaja.

14. The mosque of Ahmad Shah may be dated to 1414, the Jami-masjid to 1423. Other significant early mosques in Ahmadabad include those of Haibat Khan (1412) and Sayyid Alam (1414). The Haibat Khan work has three domed compartments, like the Broach mosque, but its triple-arched facade is as severe as the one at Dholka, even including minarets still perched behind the parapet.

The Sayyid Alam prayer hall still has five bays but the tall, projecting, arcaded facade screens only the central three and in addition to frontispiece minarets with all the richness of a Solanki pier, the subsidiary arches are flanked by recessed pilasters.

15. The tomb of Mu'azzam at Sarkhej and, nearby, the brick tomb of Darya Khan (1453) (in which the square central chamber with its arched squinches, is surrounded by sixteen arcaded and vaulted compartments) are exceptional. They depart from the Gujarati trabeated tradition in favour of the essentially Persian arcuate one promoted by the contemporary Samma dynasty at Tatta in neighbouring Sind.
The *rauzas* of Sayyid Usman at Usmanpur (1460), of Darvesh Ali (1504), Rani Rupvati (1505) and Rani Separi (1515), all in Ahmadabad, may be taken as representative.
Notable examples of mosques of the Beghara period in Ahmadabad are those of Miyan Khan Chisti and Bibi Achut Kuki (of 1465 and 1472 respectively) but most notable of all are the Nagina and Jami-masjids at Champanir.

Bengal (page 173)
In addition to Saraswati (*Architecture of Bengal*) and the general works listed above, see Dani, A.H., *Muslim Architecture in Bengal*, Dacca 1961.

16. The great metropolitan fort of Gaur at the junction of the Ganges and the Mahanadi, the capital of successive dynasties for over 1000 years from the time of Shashanka and Harsha-vardana to that of the Senas and their Muslim successors, is one of the rare surviving examples of the category of earth or mud fort. Vallala Sena (1158-79) took the title of Gaureshvara, 'Fortunate Lord of Gaur'. The last of the Senas, Lakshmana (1179-1205), founded a new capital outside Gaur's walls and called it Lakshmanavati (Lakhnauti).

17. The *minar* at Chhota Pandua, emulating Qutb's work but missing its proportions, shows that the example of Delhi did not go unheeded. The Tribeni mosque was founded in 1298 but substantially rebuilt in the 16th century.

18. On the *chou-chala* see above, page 67.

Jaunpur (page 183)
In addition to the general works listed above see:
Fasihuddin, M., *The Sharqi Monuments of Jaunpur*, Allahabad 1922;
Fuhrer, A. and Smith, E.W., *Sharqi Architecture of Jaunpur* (A.S.I.), Calcutta 1889.

19. Firoz Shah's brother Ibrahim founded the city's first mosque in the fort with materials pillaged from Hindu shrines – a date equivalent to 1376 is incorporated in inscriptions on its *minar*. The Atala Masjid was founded by Firoz himself in 1376 on the site of the town's principal Hindu temple but local opposition delayed its realisation until the Sharqis were firmly in power. The Lal Darwaza Masjid was founded by the wife of Mahmud Shah (1440–56) and the Jami-masjid was begun by Mahmud himself but enlarged by the last of the Sharqis, Hussein Shah (1458–84).

Malwa (page 186)
In addition to the general works listed above see:
Nath, R., *The Art of Chanderi*, Delhi 1979.
Patil, D.R., *Mandu*, Delhi 1971;
Yazdani, G., *Mandu, The City of Joy*, Oxford 1929.

20. Mandu is a corruption of Mandapa Durga, a Hindu fort dating back to the 6th century at least but greatly augmented when the Paramaras moved their capital from Ujjain to Dhar. Probably the Hindu seat when Ala-ud-din invaded Malwa in 1305, it seems to have been concentrated around the Munja Talao where the remains of Hindu temples are still to be found.

The Muslim province of Malwa basically constituted the former Paramara kingdom. After Timur's invasion, many of the Tughlaqs' viceroys seized the opportunity to throw off the imperial yoke. Subsequently, energies that had been channelled into asserting independence from a common overlord were directed into aggrandizement of that independence. The clashing pretensions of the new sultans, along lines laid down by the Hindus, destabilized central India. This was to affect Malwa, Gujarat and Chittor, in particular, protracting a three-way struggle until they were finally defeated by Akbar in battle.

Sen, G., 'Mandu – The Royal Complex' in *Architecture in India* (eds. Rewal, R., Veret, J.L. and Sharma, R., Paris 1987), publishes a plan of the whole palace complex which, in revising my own findings for figure 218, I have found useful.

21. Chanderi fell to the Delhi sultans in 1215 and was governed under them from Dhar as an outpost of Malwa. Despite various vicissitudes it remained an important provincial centre after Malwa achieved its independence under the Mandu sultans until the weak Mahmud II lost it to the last of the Lodis who then lost it to the Rajput Rana Sanga of Chittor. Sanga conferred it on the former Malwan viceroy of Chanderi, the Hindu Medini Rao, who ruled it from his palace in the fort until Babur ousted him in 1528.

The Deccan: Gulbarga and Bidar (page 194)
In addition to works cited in the general list and under The Fort, pages 319ff above, see:
Burgess, J., *Report on the Antiquities of Aurangabad and Bidar*, (A.S.I.), London 1878;
Merklinger, E.S., *Indian Islamic Architecture: The Deccan 1347-1686*, Warminster 1981.
Yazdani, G., *Bidar: Its History and Monuments*, Oxford 1947.

22. In dating the *diwan-i-am* and 'Takht Mahal' to the reign of Ahmad Shah I, Yazdani (Bidar page 66) matches the remains with the contemporary description of that sultan's palace by Sayyid Ali Tabataba in his *Burhan-i Ma'athir*. Referring to the eulogy of the Bahamani Takht-i-Firoza ('Turquoise Throne') given by Ferishta, Yazdani cites Briggs vol. II page 520. Yazdani suggests that in the tile mosaics of tigers backed by rising suns, which emblazon the spandrels of the great domed chamber beside the mosque in the west wing of the 'Takht Mahal', Persian craftsmen have Indianized the Persian royal motif of the lion and sun.

23. Probably founded by the second Bahamani ruler, Muhammad Shah (1358-1373), the Shah Bazaar mosque has six rows of fifteen identical domed bays at the head of a court surrounded by an arcaded wall apparently without cloisters. The *qibla* is distinguished with no monumental form or space. Entrance is through a *qubba* with a low, flat dome, lightly battered walls and a triple-voussoir arch in the shallow central recession. This simplifies the approach favoured by contemporary Delhi architects in works like the Jami-masjid of Kotla Firoz Shah.

The Jami-masjid at Gulbraga has an inscription, attributing it to Sultan Muhammad and Rafi of Qazvin, dated to the equivalent of 1367. The multi-domed prayer hall was to be enduringly popular in the Deccan, reappearing at the head of an open court most notably in the 95-bay Solah Khamba Masjid at Bidar and the great Jami-masjid of the Adil Shahi capital Bijapur.

24. The canopy tomb type adopted by Ali Barid (1543–79) for his mausoleum in the centre of its platform in a *chahar bagh*, may be traced back through the necropolis of Merv to the *qubba*'s original Zoroastrian prototype. The dome of the tomb of Khan Jahan Barid (died 1553) is also bulbous.

The canopy type was implied by the tombs of 'Dilawar Khan' at Holkonda and Ala-ud-din Bahaman II at Bidar, with their monumental arcades, though the arches are blind within deep recesses. The former, somewhat remotely related to the Persian tomb-tower by Merklinger (*op.cit.* page 16), is one of the rare notable examples of the octagonal type in the area. Another is the *hasht behisht* of the Kirmani *sufi* Sheikh Khalil Allah (died 1460) in Bidar. The interlacing of ribs in the zone of transition in the Dilawa Khan tomb and in the vault of the barbican chamber at Daulatabad (see above page 194), reflects contemporary practice in Herat and Khirgird, but this may be traced back to Seljuk work in the Isfahan Jami-masjid.

The Deccan: Golconda and Bijapur (page 201)
In addition to works cited in the general list and under The Fort, page 319f, see:
Cousens, H., *Bijapur and its Architectural Remains*, (A.S.I.) Bombay 1916 and *Bijapur: The Old Capital of the Adil Shahi Kings*, Poona 1923;
Yusuf, Syed: *Antiquarian Remains in Hyderabad State*, Hyderabad 1953.

25. The great citadel at Ahmadnagar still plays a military role. The Farrah Bagh there clearly belongs to the type represented by Uzun Hassan's Tabriz palace – see Reuther, *Indische Palaste*.

26. Golconda originated as an outpost of the Chalukyas and Rashtrakutas before passing to the Kakatiyas. In 1363 the Bahamanis wrested it from Warangal. A Turk, Quli Qutb Shah was the Bahamani governor of Telangana. The third Qutb Shahi, Ibrahim, shared in the conquest of Vijayanagara: thereafter Golconda flourished and the court was noted for its tolerance and culture. Its affluence – its diamond mines and crystal in particular – aroused Mughal envy and Aurangzeb took it in 1687.

27. Other important early Qutb Shahi works include the Mustapha Khan, Mulla Khiyadi and Jami-masjids of Golconda. The Char Minar and Jami-masjid of Hyderabad are datable to 1592 and 1597 respectively. Also notable in the new capital is the colossal Mecca Masjid of 1617.

28. Yusof Adil Shah (1490–1510), was the son of a Turkish prince who fled from his homeland after a succession crisis, and acquired Shi'ism in Persia on his way to India. He found service under the Bahamanis at Bidar and was their governor of Bijapur. Though he maintained Shi'ism as the state religion, he was markedly tolerant of other faiths: he married a Hindu and Hindus were appointed to high office. Ali I (1557–80) played a prominent part in the destruction of Vijayanagara. The ablest of the line was the tolerant and cultured Ibrahim II (1580–1626) and the last effective ruler was his grandiloquent successor Muhammad (1626–1656).

Within the citadel Ali I was probably responsible for the Gagan Mahal,

and Ibrahim II for the Anand Mahal, Sat Manzil and the Jal Mandir water palace. As well as laying out the extensive suburb of Nauraspur to the west of the town, Muhammad rebuilt the Athar Mahal (perhaps originally founded by Ibrahim II) and added the Jahaz Mahal.
The earliest mosque built in Bijapur under the Adil Shahis – to supplement those assembled by the 14th-century viceroys of Delhi with materials pillaged from temples – is the so-called Jami-masjid of Yusof, actually dated to 1512, whose bulbous dome rising from petal-like cresting already indicates Adil Shahi proclivities. Despite its designation, neither this crude work nor the 'Jami-masjid' begun nearly forty years later by Ibrahim I (1534-1557) is significantly distinguished in scale from several mosques built in the intervening period: they follow the three-bay formula of such Bahamani works as the Langar-ki Masjid, but with the simple, broad, low-sprung arches of the Gulbarga Jami-masjid. In Ibrahim's mosque, instead of a dome, central emphasis is provided by a pair of minarets unprecedented in Bahamani works.

Vijayanagara and the Hindu Kingdoms of the South (page 211)
In addition to the works listed in the general section and under the Cholas above, page 315, see:

Auboyer, J., *Sri Ranganathaswami: Le Temple de Vishnu à Srirangam*, Paris 1969;
Devakunjari, D., *Hampi*, Delhi 1970 and *Madurai Through the Ages*, Madras 1979;
Filliozat, V., 'The Town-planning of Vijayanagara', *AARP* 14, 1978; 'The History, Social and Economic Conditions of the Vitthala Temple at Hampi', *South Asian Archaeology* 1981 (ed. Allchin, B.), Cambridge 1984;
Fritz, J.M., 'The Grand Ruins of the Ancient City of Vijayanagara', *Inside Outside* XXI, 1981;
Longhurst, A.H., *Hampi Ruins*, Madras 1917;
Michell, G., 'Vijayanagara: the architectural record', *South Asian Studies* I, 1985; with Filliozat, V. (eds.), *Homage to Hampi* (*Marg* III) and *Splendours of the Vijayanagara Empire: Hampi*, Bombay 1981;
Nagaraja Rao, M.S. (ed.), *Vijayanagara: Progress of Research 1979-83*, Mysore 1983-84; and with Fritz, J.M. and Michell, G., *The Royal Centre at Vijayanagara: Preliminary Report*, Melbourne 1984;
Sewell, R., *A Forgotten Empire*, London 1900;
Spink, W., 'Vijayanagara: City of Victory', *Journal of Indian History* 51, 1973.

29. See above page 100ff. The Shri-Ranganatha Temple at Shrirangam is unorthodox in being aligned north-south.

30. Religious tolerance, implicit in the first ruler's choice of the name Hari-Hara (the conjoined form of Shiva and Vishnu), was proclaimed as state policy by his successor Bukka I.

31. Today the wild, bizarre site seems a strange place for one of the East's most splendid capitals. Strategically placed on the Tungabhadra, it had been occupied from time immemorial: it is identified with Kishkinda where some of the scenes of the Ramayana were played out. Sewell, *Forgotten Empire*, relates the glowing accounts of the city's glory transmitted by contemporary visitors including Paes, Nuniz (see works listed above) and the Persian Abdur Razzaq.

32. The traditional designation of the compounds to the west of the main royal enclosure as the 'Mint' and 'The Danaik's Enclosure' and that to the north as the 'Zenana' are without substantiation. Michell, Fritz and Nagaraja Rao (in their outstanding work on *The Royal Centre* after which our figure 253 is drawn) argue convincingly for placing public ceremonial in the large central enclosure with the great platforms, and the emperor's private quarters in the western compounds. They assign the northern one to activities connected with the military (page 150). It will be recalled that the ancient *shastras* place the gods in the centre – as here in the Ramachandra (Hazararama) – and the king to the north (see above page 8f). Were the *shastras* an infallible guide, the so-called 'Zenana' should be allotted to the king. Not only does theory rarely coincide with practice, but the northern enclosure is clearly removed from the main agglommeration of the imperial complex. Less specifically – and therefore more reliably, perhaps – the ancient tradition places the establishment of the heir to the throne beyond the main palace (see Prologue note 8). It is possible that the northern enclosure may have been the crown prince's palace – but that would not explain why it was larger and more magnificent than the enclosures ascribed to the emperor. An explanation may be connected with the accommodation of the magniloquent regent Rama Rao when the nominal emperor (Achyuta Deva's nephew Sadashiva, 1543-1568) was a minor and there was no heir.

33. The main palatine temple is post-Vijayanagaran and paintings dated to the 18th century survive on the fourth floor of the king's quarters. Ravindran, K.T., 'The Padmanabhapuram Palace' in *Architecture in India* (eds. Rewal *et al*) publishes a plan of both main levels.

Rajputs (page 219)
In addition to works on the forts and temples of northern India and Rajasthan cited in the general list, under Forts and under Post-Gupta Developments, see:

Chetwode, P., 'Orchha: A City Left to the Jungle' and 'Assassin's Palace at Datia', *Country Life* 162, 4191/2, 1977;
Garde, M.B., *A Handbook of Gwalior*, Gwalior 1936;
Ghurye, G.S., *Rajput Architecture*, Bombay 1968;
Goetz, H., *Rajput Art and Architecture* (essays on Rajput and Bundela subjects originally published in various journals between 1938 and 1961, collected and edited by Jain, J. and Jain-Neubauer, J.), Wiesbaden 1978;
Tillotson, G.H.R., *The Rajput Palaces*, New Haven and London 1987.

34. Accounting for the lack of clear distinction between the men's quarters (*mardana*) and the *zenana* in several Rajput works, including Kumbha's, Tillotson, *Rajput Palaces*, denies Goetz's assumption that they were merely *zenanas*. He makes the valuable point that the early *garh* palace performed a different function to its later descendant: 'it was designed for the use of a more restricted group of people. It seems likely that the early *garh* palaces were intended to accommodate the women of the royal family and also the male members of the immediate family, who in the later period had access to the *zenana* (though they did not live in it). The people excluded from these buildings who were to be admitted into the later buildings were... the courtiers, ministers of state and the palace guard. The introduction of these people into the *garh* palace necessitated the creation of a quite distinct *zenana*... In other words, making the palace more public involved the introduction of a private portion in which the women could be protected from the public' (page 86).

Kumbha's palace may have been enlarged by Rana Sanga (1509-28). Rana Ratan Singh II (1528-32) built a new one by the tank to the north of the Gaumukh-kund. The palace of 'Rani Padmini' in the middle of the tank; associated with the *zenana* of Ratan Singh II, has more to do with the era of that ruler than with his 13th-century namesake and the romantic Rani Padmini who is reputed to have outwitted Ala-ud-din Khalji: it has still more to do with the 19th century when it was rebuilt.

Tillotson (page 48) notes the relationship between Kumbha's work and the Kirtti Mandir of Raja Kirtti Singh (1454-79) at Gwalior and the Naukhanda Mahal of Medini Rao in the fort at Chanderi (see section 3, note 21). He also notes the similarity between the palace *toranas* of Chanderi and the Gwalior Hindola Pol and Hathi Pol.

35. Gwalior was occupied by the Guptas, Huns, Rashtrakutas and Pratiharas. Amongst its earliest tangible records, however, is the Teli-ka-mandir. After the Pratiharas were replaced in the area by the Chandellas in the mid-10th century, Kachchhapaghata chiefs were appointed governors of Gwalior. Maintaining some independence until displaced by the Paramaras in 1128, it was their late-11th century king Mahapala who built the Sas-bahu Temples.

Gwalior shared with Kalanjar a reputation for strength unexcelled in all India and it held out for a year against Iltutmish in 1232. Delhi held it until 1394 when its Tomar governor declared his independence from the Tughlaqs. Amongst the fort's principal treasures are the huge Jaina rock sculptures executed under the early Tomars. The greatest of the Tomars, Man Singh who built the palace, died in the Lodi attack which ended their rule at Gwalior in 1526.

36. The great days of Orchha began when the Raja Rudra Pratap seized the opportunity opened by the weakness of the once great neighbouring Muslim powers, Delhi itself, Malwa and Jaunpur, to emerge from the wilderness around his family's seat at Garhkundar and establish himself by the readily defensible island in the River Betwa which was once an outpost of Chanderi. He and his successor strengthened the island's fortifications and built the Ramji Mandir on the bank opposite it. Raja Madhukar built the Raj Mahal on the island itself from 1575. An uncompromising devotee of the popular Krishna cult with which Hinduism was responding to Islam, Madhukar was succeeded by his weak brother who was replaced in 1605 by Bir Singh Deo at the behest of Jahangir. As well as the Jahangiri Mahal, Bir Singh built the Govind Mahal at Datia. Countering attempts to relate the plans of these latter works to the *Paramashayika Mandala*, on which see Prologue, note 6 and section 2, note 4. Tillotson (*op.cit.* page 79ff) demonstrates how theory was honoured more in the breach than in the observance.

37. Local legend has it that the Chaturbhuja was originally a palace built for the god Rama at the instigation of Raja Madhukar's wife who had been blessed by him at Ayodhya with a promise to return with her to Orchha if his image were to be lodged there in a palace like a *raja*, never to be displaced. Pending the construction of a suitable abode the god was installed in the Rani's own palace but after the completion of the great Chaturbhuja he refused to move. Subsequently an image of Vishnu was installed in the temple originally meant for his *avatar* Rama and the Rani's palace became the dynastic temple – the Ramji Mandir. It is hardly insignificant that the principal feature of the Chaturbhuja is a cruciform hall borrowed from the secular field, specifically the Chanderi Kushak Mahal, and it is this feature which makes the work the prototype for the new congregational temples required for the cult of Krishna. A similar combination of Hindu and Islamic elements produced the great temples at Brindaban in which true voussoir vaulting is employed to cover a space comparable to Orchha's Chaturbhuja 'palace temple'.

Mughal Achievement (page 229)

In addition to the general works listed above, (particularly Reuther, Nath and Saraswati's 'Mughal Architecture' in *Majumdar History, etc.*), see:

Brandenburg, D., *Der Taj Mahal in Agra*, Berlin 1969;
Carroll. D., *The Taj Mahal*, New York 1972;
Hambly, G., *The Cities of Mughal India*, London 1968;
Hurlimann, M., *Delhi, Agra, Fathpur-Sikri*, London 1963;
Husain, A.B.M., *Fathpur-Sikri and its Architecture*, Dacca 1970;
Jairazbhoy, R.A. 'The Taj Mahal in the Context of East and West', *Journal of the Warburg and Courtauld Institute* XXIV, 1961;
Latif, S.M., *Lahore: Its History, Architectural Remains and Antiquities*, Lahore 1892;
Majumdar, K., *Imperial Agra and the Mughals*, Agra 1934;
Moin-ud-din, M., *The History of the Taj and the Buildings in its Vicinity*, Agra 1905;
Muhammad, W.U.K., *Lahore and Its Important Monuments*, Karachi 1964;
Nath, R., *The Immortal Taj Mahal, The Evolution of the Tomb in Mughal Architecture*, Bombay 1972; *History of Decorative Art in Mughal Architecture*, Delhi 1976;
Rizvi, Saiyid A.A. and Flynn, V.J.A., *Fathpur-Sikri*, Bombay 1975;
Sanderson, G., *A Guide to the Buildings and Gardens, Delhi Fort*, Delhi 1937;
Sanwal, B.D., *Agra and its Monuments*, Bombay 1968;
Smith, E.W., *Akbar's Tomb* (A.S.I.), Allahabad 1909;
Stuart, C.M.V., *Gardens of the Great Mughals*, London 1913;
Welch, S.C., *The Art of Mughal India*, New York 1964.

The Great Palace (page 229)

38. In the *Babur-nama* the emperor notes: 'I visited the buildings of Man Singh and Bramajit [Vikramaditya, Man Singh's heir] thoroughly. They are wonderful buildings, entirely of hewn stone, in heavy and unsymmetrical blocks, however of all the buildings of the rajas, Man Singh's is the best and loftiest'. On Babur's visits to Timurid monuments see above, page 155.

39. Humayun began work on his new capital about 1533 and its citadel palace, the Purana Qila, may be attributed, in part at least, to the second Mughal emperor perhaps as plausibly as to his short-lived adversary Sher Shah.

40. The Hathi Pol took its name from twin statues of elephants on pedestals to either side of the portal, destroyed by the iconoclastic Aurangzeb. Ironically – if not as a singular mark of *rapprochement* in expiation of guilt – these may have echoed a Rajput theme, see plate 19(b), adapted to commemorate the heroes Jaimal and Patta who died in Akbar's savage onslaught on Chittor.

41. The village of Sikri, on the lower of two neighbouring ridges 37 kilometres west of Agra, had been the seat of the Sikrwar Rajputs until they were crushed by the Muslims in the 12th century and their buildings were pillaged for a new provincial capital. Victorious over their resurgent descendants nearby, Babur embellished the settlement and possibly even conceived the artificial lake which was to play a major part in his grandson's development of the site. Meanwhile, the higher ridge had been chosen by the *sufi* saint of the Chisti order, Sheikh Selim, for a *khanqah*. Akbar, who had quarries developed at Sikri to provide stone for Agra, was a devotee of the Chistis and after favourable consultation with Sheikh Selim on the prospects for an heir he built a retreat for his wives near the *khanqah* where the future Jahangir and his brother were born in 1569 and 1570. On his return from a thanksgiving pilgrimage to the Ajmer shrine of the founder of the Order in India, the emperor announced the removal of the capital to the auspicious site.

42. The traditional allocation of the north-west Anup Tala'o pavilion to a mysterious 'Turkish Sultana' is implausible as it is outside the *haram sara* compound.

43. The identification of the buildings which dominate the northern *daulat khana* zone is the subject of much debate. The three-roomed western range has been dubbed 'Ankh Michauli' ('Place of blind-man's buff'), but its screens, recesses, corridors, vaults and aedicules have led some to identify it as the imperial treasury. The sumptuous *chattri* to its side, with elaborate serpentine brackets, has likewise been allotted the role of sheltering the emperor while distributing largesse in the central court. The free-standing, two-storey building's interior pillar, platform, bridges and gallery have led to its identification not only as the 'Diwan-i-khas' but also as the 'Ibadat Khana', which Akbar is known to have built in 1574–75 as the forum for debates on religion, despite contemporary evidence for the placing of the one in the private apartments, the other near Selim Chisti's *khanqah*. Other explanations fail to account for the obscure tradition in accordance with which Humayun and Akbar were represented in contemporary miniatures as seated on a tree-throne, surely here given enduring substance.

44. The main *haram sara* compound is known as 'Jodh Bai's Palace' though the nominee is not readily indentifiable with any of the Rajput wives for whom Akbar built it. The isolated *haram sara* pavilions are known as the houses of Miriam and Raja Birbal. The former, somewhat plain without except for its lavish adjunct, but richly frescoed within, may well have accommodated the emperor's mother, Hamida Banu Begam, entitled Mariyam Makani ('Mary's Peer'), who not only presided over the imperial seraglio but was the guardian of the great seal of state. Still within the *haram sara* enclosure, the extremely richly carved north-west pavilion could hardly have been at the disposal of a male officer of state but its paired entrances, diagonally disposed rooms, discreet balconies and Islamic motifs, suggest dual occupancy by two Muslim ladies of the court.

45. Shah Jahan seems personally to have directed the planning of his own capital by the Persians Hamid and Ahmad al-Asar, who are credited with the Taj Mahal. See:

Chaghtai, M.A., 'A Family of Great Mughal Architects', *Islamic Culture* XI, 1937;
Kanwar, H.I.S., 'Ustad Ahmad Lahori', *Islamic Culture* XLVII, 1974.

On symbolism see section 3, note 1. See also note 52 below.

The Garden (page 242)
46. Amongst innumerable examples of the *chahar bagh*, apart from the great tomb gardens, one might single out Babur's own Ram and Zahara Bagh at Agra, Humayun's Achanak Bagh there, Jahangir's Daulat Bagh at Ajmer and the many gardens around his Shalimar on the banks of Lake Dal in Kashmir, the Shah-i-Bagh of Shah Jahan at Ahmadabad and his Shalimar of Lahore, Aurangzeb's Hazun Bagh at Lahore and those of the Aurangabad Arh Qila from which the ageing emperor waged his exhausting Deccani wars.

Imperial Mosque and Tomb (page 243)
47. Important representatives of the octagonal tomb type in Delhi are those of Isa Khan and Adam Khan of 1548 and 1562 respectively: the latter follows the model of Sikandar Lodi, replacing the simple buttresses with tapering colonnettes. The former, on the other hand, reverts to the Sayyid formula with *chattris* but the verticals of the buttresses terminate in pinnacles like those ringing the base of the dome.

48. Apart from the Jamali and Qila-i-Kuhna Masjids, Humayun's reign is credited with the Kachhpura Masjid at Agra which is distantly related to the Begampuri in organization and conformed to the Timurid brick and tile tradition in structure and decoration. The unusual Khair-ul-Manzul *madrasa* outside the Purana Qila is similar in these latter respects. It has tall blind arches framing lower open ones to the prayer hall of its *masjid,* like the Qila mosque, but the subtle variation in plane which distinguished the five-bay composition of the earlier works is absent in the three-bay later one hemmed in by the superimposed arcades of the *madrasa*, and it doubtless relied for effect on glazed tile-work. The entrance *iwan* frontispiece however, pays worthy compliment to the great Purana Qila portal opposite.

49. Humayun's tomb was begun by his widow Hamida Banu Begam early in the 1560s, perhaps by the architect responsible for the Buland Darwaza at Fatehpur Sikri – sometimes identified as Mirak Mirza Ghiyas. The richly inscribed Buland Darwaza is datable to 1574-76.

A contemporary description of a floating palace devised for Humayun on four barges in the Yamuna recalls the form of the *hasht behisht.*

50. Atgah Khan, appointed chief minister in opposition to the faction of Adham Khan and his mother Maham Anga (Akbar's wet-nurse), was murdered by Adham Khan early in 1562. The tomb of Muhammad Ghaus at Gwalior dates from the following year. The Selim Chisti Tomb dates from 1581.

Notable early Mughal tombs around Tatta include those of Sheikh Ali Shah Shirazi (1572) and Mirza Jami Beg (1599). The tomb of Qutb-ud-din at Baroda is another prominent example of Persian influence.

51. Begun about the time of his death, Akbar's tomb was completed in 1613 according to an inscription on the gate-house. Mariyam al-Zamani seems to have been buried in the *Lodi baradari* in 1623.

52. Of the tombs following the Sikandra prototype, perhaps the closest is that of Jahangir's wife Man Bai at Allahabad. The Itimad-ud-Daulah died in 1622, Jahangir in 1627 and their tombs were built by Nur Jahan over six or seven years after their deaths.

53. Hakim Ali-ud-din was governor of the Punjab as Nawab Wazir Khan, resident in Lahore from 1634-36. The Jami-masjid at Tatta was begun in 1644. A monumental entrance flanked by courts was added in the next decade.

54. The Delhi Jami-masjid was began in 1644 in front of the great fort founded six years earlier. The Badshahi Masjid of Lahore dates from 1674.

55. The authorship of the Taj Mahal is the subject of much speculation. It was probably due to a team of Persian master-architects headed by the emperor himself. As we have seen (note 45) Shah Jahan took an active personal interest in the design of his Delhi capital. Acutely conscious of his decent from Timur, he also took a personal interest in the Gur-i-Amir and its maintenance. Persian masters (*ustads*) known to have been in the employ of the Great Mughal of the time include one Ahmad from Herat, entitled Nadir al-Asar by his Indian patron, who was credited with the design of the Taj Mahal by his son in the mid-1660s. Ustad Ahmad later worked at Delhi in conjunction with one Ustad Hamid (perhaps his brother) and one Mullah Mushid Shirazi, entitled Mukarrimat Khan. Another master, Mir Abdul Karim, entitled Ma'mur Khan, was working on the Lahore fort for Shah Jahan before being called to Agra in the year of Mumtaz Mahal's death. Chauvinistic attempts to credit the building to Europeans or claim that it was a Hindu *prasada* need hardly be taken seriously.

The displacement of the Taj Mahal mausoleum from the centre of the *chahar bagh* to the riverside esplanade has been explained in terms of the emperor's reputed intention of building himself a pendant to it in black marble on the other bank. There is no substantiation for this thesis which seems to have been suggested by Tavernier (*op.cit.*). Begly, W.E., 'The Myth of the Taj Mahal and a New Theory of Its Symbolic Meaning', *Art Bulletin* 3, 1979, would explain the Taj Mahal's disposition in terms of the manifestation of what the blessed will see at the Last Judgement. Pressing his interpretation of symbolism to the extreme, his conclusion seems to credit Shah Jahan with a blasphemous exercise in which the 'King of the World' sought to displace God at the climax but Begley fails adequately to account for the enigma of the emperor's off-centre sarcophagus.

4 Late India

Sectarian Division and Colonial Rivalry (page 261)
In addition to the general works listed above, see:
Boxer, C.R., *The Portuguese in the East*, Oxford 1953;
Douglas, J., *Bombay and Western India*, London 1903;
Edwardes, M., *Asia in the European Age, 1498-1955*, London 1961;
Foster, W., *The Founding of Fort St. George*, Madras, London 1902, and *The English Factories in India 1618-23*, London 1906;
Kincaid, D., *British Social Life in India*, London 1938;
King, A.D., *Colonial Urban Development*, London 1976;
Moorhouse, G., *Calcutta*, London 1971;
Nightingale, P., *Trade and Empire in Western India*, Cambridge 1970;
Philips, C.H., *The East India Company*, London 1962;
Roberts, P.E., *History of British India*, London 1952 ;
Sen, S.P., *The French in India*, Calcutta 1948;
Spear, P., *The Nabobs*, London 1963;
Tindall, G., *City of Gold: The Biography of Bombay*, London 1982;
Wilson, C.R., *Old Fort William in Bengal*, London 1906;
Woodford, P., *The Rise of the Raj*, London 1978;
Woodruff, P., *The Men Who Ruled India*, London 1954.

1. See works listed at the head of section 3, Pattern of Patronage, page 320, and also:
Heber, R., *Narrative of a Journey from Calcutta etc.*, London 1828;
Hodges, W., *Travels in India etc.*, London 1807;
Valentia, Viscount, *Voyages and Travels to India etc.*, London 1809;
Oaten, E.F., *European Travellers in India*, London 1909.
See also:
Daniell, T., *Views of Calcutta*, Calcutta 1786-1788; and with Daniell, W., *Oriental Scenery, Twenty-four views of Hindoostan*, London 1797 and *A Picturesque Voyage to India*, London 1810;
Sutton, T., *The Daniells, Artists and Travellers*, London 1954;
Archer, M., 'Forgotten Painter of the Picturesque, Henry Salt in India 1802-1804, *Country Life*, 19 November 1959.

2. The transfer of the capital of British India from Calcutta to Delhi, where the Crown distanced itself from the legacy of the Company's past and emulated former imperial regimes by laying out a new seat, reflects the logic of the transition from commercial interest based on the exploitation of the richest of provinces to Subcontinental imperium of lofty principle. On the other hand, the impact of economic expansion on the development of Calcutta – a fine classical city as the seat of authority – was grotesquely marred by failure to take effective interest in what was happening around the prestigious core. Madras, for its part

– Britain's first foothold in the Peninsular – had not quite ceded its early colonial charm and relatively relaxed pace of development to 19th-century realities before its eclipse by Bombay soon after the Crown displaced the Company. The extraordinary turn in Bombay's fortunes was due to the coincidence in the 1860s of the enlightened governorship of Sir Bartle Frere, the culmination of railway development, the opening of the Suez Canal and the suspension of the cotton trade between Britain and the United States of America during their Civil War which opened the way for the development of India's cotton industry.

Princely Building (page 263)

In addition to works listed above under Rajputs (page 323), Goetz and Tillotson in particular, see:

Allen, C. and Sharada, D., *Lives of the Indian Princes*, London 1984;
Desai, V.N. (ed.), *Life at Court: Art for India's Rulers 16th-19th Centuries*, Boston 1985;
Lord, J., *The Maharajas*, London 1972;
Welch, S.C. and Patnaik, N., *A Second Paradise: Indian Courtly Life 1590-1947*, New York 1985;
Wright, M., 'Palaces of the Rajput Princes', *Country Life*, 25 January 1979.

3. See above, pages 226ff.

4. See Tillotson., *Rajput Palaces*, and section 3, note 34. Tillotson, *Rajput Palaces*, has unravelled the complex building history of many major complexes and I am particularly indebted to his work on Udaipur and Jodhpur.

5. In his survey of the development of the Udaipur City Palace, Tillotson, *Rajput Palaces*, pages 25ff and 107ff, adds to his account of the development of the cusped arch the early appearance at Udaipur of a 'Mewari variant'. Composed of a pair of corbel brackets which avoid contact at the 'apex', below a continuous horizontal, this betrays the origin of the form in the indigenous trabeated structural system.

6. In reconstructing the building history of the Jodhpur Fort Palace, Tillotson, *Rajput Palaces*, page 139, distinguishes a 'new type of capital... peculiar to Jodhpur. It consists of a banded moulding at the top of the pier, and a scroll at the springing of the arch. It bears some resemblance to a classic Ionic capital'. Detecting its first appearance after the Mughal occupation, in the reign of Maharaja Ajit Singh (1707-1724), he uses it as a 'hallmark' of subsequent work.

7. Tillotson, *Rajput Palaces*, page 171ff, relates contemporary drawings for the laying-out of Jaipur to *shastra* principles and discusses the modification of the nine-square formula to fit the site. On Jaipur see also:

Carapetian, M., 'Jaipur; the Pink City', *Architectural Review*, 9 1982;
Garrett, A., *The Jaipur Observatory and its Builder*, Allahabad 1902;
Jai, N.A. (ed.), *Cultural Heritage of Jaipur*, Jaipur 1982;
Roy, A.K., *History of Jaipur City*, Delhi 1978.

8. On Jaisalmer see the works listed under The Fort, page 319 above, and Sharma, N., *Golden Town: Jaisalmer*, Jaisalmer 1980.

9. On the architecture of the capital of Oudh see Hay, S., *Historic Lucknow*, Lucknow 1939; see also Hill. S.C., *The Life of Claude Martin*, Calcutta 1901.

Church and Colonial State (page 275)

Archer, M., *Indian Architecture and the British*, London 1968; *British Drawings in the India Office Library*, London 1969 and *Company Drawings in the India Office Library*, London 1972; 'Company Architects and Their Influences in India', *RIBA Journal*, 8 1963; 'Georgian Splendour in Southern India', Country Life, 26 March 1964; 'Aspects of Classicism in India; Georgian Buildings of Calcutta', Country Life, 3 November 1966;
Barlow, G., The Story of Madras, London 1921;
Bence-Jones, M., Palaces of the Raj, London 1978;
Blechynden, K., Calcutta, Past and Present, London 1906;
Davies, P., *Splendours of the Raj, British Architecture in India, 1600 to 1947*, London 1985;
Hutt, A., *Goa*, Buckhurst Hill, 1988;
Irving, R.G., *Indian Summer: Lutyens, Baker and Imperial Delhi*, London 1981;
Kalpana, S.D., 'Icons and Faith' in *Goa – an encounter* (*Marg* XXXV, note 3);
Martyn, M., 'Georgian Architecture in Calcutta', *Country Life*, 3 December 1948;
Morris, J. and Winchester, S., *Stones of Empire*, Oxford 1983;
Nilsson, S., *European Architecture in India, 1750-1850*, London 1968, and *The New Capitals of India, Pakistan and Bangladesh*, Copenhagen 1973;
Srinivasachari, C.S., *History of the City of Madras*, Madras 1939;
Pereira, J., *Baroque India, A Survey of the Ecclesiastical Architecture of European Derivation between 1500 and 1800*, manuscript abstracted in *Marg* XXXII, number 4;
Rajagopalam, S., *Old Goa*, Delhi 1975;
Richards, Sir J.M., *Goa*, Delhi 1982;
Stamp, G., 'Indian Summer', *Architectural Review*, 6 1976; 'British Architecture in India 1857-1947', *Journal of the Royal Society of Arts*, 5 1981, and 'Urbs Prima in Indis', *Architectural Association Research Papers* 11, 6 1977;
Thomas, P., *Churches in India*, Delhi 1961.

10. On the enclave's conquest from the Bijapuri kingdom – on St Catherine of Alexandria's day, 25 November 1510 – the Portuguese commander, Alfonso d'Albuquerque vowed to build a votive chapel to St Catherine. Several times rebuilt, this became the cathedral in 1534. It seems to have been rebuilt about 1550 and again in 1952. Witness to the importance placed on the Christianizing mission of the colonial power, it was eclipsed by a massive new cathedral after Goa was elevated to the seat of the Metropolitan Archbishop in 1557.

Goa's earliest ecclesiastical remains are incorporated in the church of the Holy Spirit ('St Francis of Assisi'), next to the cathedral, which was founded by the first of the many religious orders to arrive in the colony – within seven years of the occupation. The earliest church to survive substantially intact, dedicated to Our Lady of the Rosary in 1540, is still essentially late mediaeval though it has some rather Gujarati decorative detail and 'rope' banding to its tower-portal. This and some of the vaulting are typical of the flamboyant Manueline style which, with its not un-Indian delight in exotic naturalistic motifs – especially marine forms – was prevalent in Portugal in the first decades of the 16th century, the period of King Manuel I and of Portugal's greatest explorers.

The Jesuits had installed themselves in the colony by 1585 and within three years had constructed an extensive professed house to which the church now known as the Bom Gesu was added in 1592. Its importance as the centre for the proselytization of the East was emphasized by its endowment with the tomb of St Francis Xavier. See Newman-Fernandez, S.P., *St Francis Xavier and Old Goa*, Panjim 1974. The casket was made in Goa in 1636. The pedestal was commissioned by Grand-Duke Cosimo III of Tuscany. Attributable to the Florentine Giovanni Battista Foggini, it was installed in 1698.

One facet of Goa's role as the entrepot of the Faith, exported not only from Portugal but from the centre of the Catholic church itself for re-export to all points east, is well illustrated by the example of the Theatines. Sent by Urban VIII to convert Golconda but forbidden entry there, they obtained permission to establish themselves in Goa and in 1665 founded the city's last great church, dedicatd to the Divine Providence ('St Gaetano').

11. Julio Simao (1571-1641) was born in India of French extraction. He studied in Portugal from 1591 and returned to Goa as Chief Engineer in 1597.

The early Spanish Renaissance fusion of Italian Classical decorative motifs and flamboyant Gothic forms is called Plateresque from its resemblance to elaborate, dense but low relief metalwork. It is essentially non-architectonic, masking rather than articulating structure.

The Bolognese architect Sebastiano Serlio published the five books of his *L'Architettura* from 1537. Quickly translated into the main modern

European languages, with its generous plates illustrating antique precept as well as Serlio's own fertility of invention, it was widely used as a pattern book.

The German architectural fantasist Wendel Dietterlin published his *Architectura, von Außtheilung Symmetria und Proportion der Fünf Seulen* in Nuremberg in 1598. His characteristically bizarre overlaying of forms, and particularly his leathery 'strap-work', were popular in north-west Europe, especially Flanders as well as Germany, for much of the 17th century.

For an introduction to the metropolitan background see:

Blunt, A. (ed.), *Baroque and Rococo Architecture and Decoration*, London 1978;

Kubler, G. and Soria, M., *Art and Architecture in Spain and Portugal*, Harmondsworth, 1959.

12. The Portuguese fort at Daman was actually built by an Italian, Giovanni Baptista Cariato: see Nilsson, *European Architecture in India*, page 40ff. Nilsson notes the recurrence in India of the polygonal wall and chessboard plan, with central fort, church, commandery, prison and factory. A notable exception was the Danish colony of Tranquebar where the pattern of settlement accommodated existing temples and mosques within the walled area established to the north of the fort. On the other hand, governor Peter Anker (1788-1806) had his engineer, Mattias Muhldorff, add ceremonial gates to the town which conform closely to the models provided by B.F. de Belidor's *La Science des Ingénieurs* (Paris 1719). Not surprisingly, Belidor was even more faithfully followed by the French at Pondicherry.

For the background to the design of post-Rennaissance fortification see, for instance, the lucid work of Hughes, Q., *Military Architecture*, London 1974.

13. The architect of St Mary's is believed to have been William Dixon, the Chief Gunner 'to whom the task would naturally have been allotted' – as Lieutenant Colonel H.A. Newell records in his guide to *Madras, The Birth Place of British India*, Madras 1919 (page 43). The original detached tower was completed in 1701 and demolished in 1767 after having been damaged during the French siege of 1758. The church itself needed much rebuilding in 1759 and was given its present steeple in 1795.

On early colonial building see Sandes, E.W., *The Military Engineer in India*, Chatham 1933-1935. The many books available to assist the British colonial engineer in his architectural enterprises ranged from the heights of Colin Campbell's *Vitruvius Britannicus* (London 1761-67), James Gibbs's *A Book of Architecture* (London 1728), William Chamber's *A Treatise on Civil Architecture* (London 1759) and Isaac Ware's *Complete Body of Architecture* (London 1756) to Batty Langley's *The City and Country Builder's and Workman's Treasury of Design* (London 1745) and on to C.W. Pasley's *Outline of a Course of Practical Architecture, compiled for the use of Junior Officers of the Royal Engineers*, Chatham 1826, and *The Builder's Magazine, or a Universal Dictionary for Architects, Carpenters, Masons and Bricklayers*, London 1788.

The French were particularly well-served by the rich series of late-17th and early-18th century treatises and surveys of metropolitan architecture – culminating for this purpose in J-F. Blondel's *De la Distribution des Maisons de Plaisance et de la décoration des édifices en général* (Paris 1737-38) and Briseux, C.E., *Architecture moderne où l'Art de bien bâtir pour toutes des personnes* (ed. Jombert, C.A., Paris 1764). In adapting Briseux and Blondel (see especially Blondel's plates 2-8) for the Pondicherry government house commissioned by Dupleix in 1752, the engineer Bourcet provided service corridors, the introduction of which represented one of the main advances of French domestic planning in the early-18th century. The principal apartments are shielded from the climate by the first-floor corridor, with its massive rear wall, and by a gallery-like loggia to the front.

14. Bishop Heber noted on his arrival in Calcutta in 1823: 'The whole is so like some parts of St Petersburg, that it was hardly possible for me to imagine myself anywhere else'. (*Narrative* I page 116, quoted by Chetwode, P., Monuments; see below note 17. Nilsson, *op.cit.* page 27, quotes Heber more fully.)

For the metropolitan background see:

Stuart, J. and Revett, N., *The Antiquities of Athens*, London 1762-87;

Braham, A., *The Architecture of the French Enlightenment*, London 1980;

Crook, J.M., *The Greek Revival*, London 1972;

Robinson, J.M., *The Wyatts: An Architectural Dynasty*, Oxford 1979;

Summerson, Sir J., *Architecture in Britain 1530-1830*, Harmondsworth 1953 etc.

For Government House see:

Paine, J., *Plans, Elevations and Sections of Noblemen's and Gentlemen's Houses*, London 1783 and Adam, R. and J., *The Works in Architecture of Robert and James Adam*, London 1778-1822. In addition to the works listed above see also Archer, M., 'A Georgian Palace in India: Government House Calcutta', *Country Life*, 9 April 1959.

Defending Wellesley's assessment of the effect on imperial prestige of his new building Lord Valentia for one, noted: 'The sums expended upon it have been considered as extravagant by those who carry European ideas and European economy into Asia, but they ought to remember that India is a country of splendour, of extravagance and of outward appearances; that the head of a mighty Empire ought to conform himself to the prejudices of the country he rules over; and that the British in particular ought to emulate the splendid works of the House of Timour, lest it should be supposed that we merit the reproach which our great rivals, the French, have ever cast upon us, of being alone influenced by a sordid mercantile spirit. In short, I wish India to be ruled from a palace, not from a counting-house; with the ideas of a Prince, not with those of a retail dealer in muslin and indigo' (*Voyages* vol.1 page 235ff, quoted by Nilsson, page 105).

Wyatt's successor, Captain Thomas Anbury, built the Governor General's grand 'Palladian' summer retreat at Barakpore. Other 'Palladian' works of early British Bengal include Warren Hasting's house at Alipur and the neighbouring much expanded Belvedere, later used by the Viceroy on visits to Calcutta from Delhi. Of contemporary Residencies in the capitals of native princes, magnificent work of Lieutenant Samuel Russell, Madras Engineers at Hyderabad (1803), is outstanding.

15. On the appearance of Madras from the sea, William Hodges noted that 'the style of the buildings is in general handsome. They consist of long colonnades, with open porticoes, and flat roofs and offer to the eye an appearance similar to that which we may conceive of a Grecian city in the age of Alexander' (*Travels*, page 1, quoted by Nilsson, *op.cit.*, page 25ff.)

On the mud-flats of Bengal, brick was the traditional material and even in the area around Madras it was extensively used – as we have seen architects from Pallava times covered their brickwork with *chunam*. Stucco, of course, played a prominent part in the architecture of 18th-century Britain, as it had done in the Palladian prototypes, but adopting a South Indian technique in his invariable conformity to metropolitan fashion, the Anglo-Indian builder was bound for disaster in Bengal where the climate demanded a much tougher terracotta revetment.

Garstin, who had so much trouble with the Calcutta Town Hall, is probably most famous for the extraordinary granary known as the 'Gola' which he built at Bankipur near Patna in Bihar in 1786: 30 metres high and slightly tapering, the great domed receptacle was to be filled through an oculus at the top gained by spiral ramps. Its monumental functionalism, derived perhaps from the vernacular granary, is not unjustifiably seen as a distant echo of the *architecture parlante* of the great French neo-Classicists Boullée and Ledoux.

Davies, *Splendours*, gives invaluable thumb-nail biographies of the principal architects of British India.

16. The Banqueting House, Triplicane, was built by John Goldingham, appointed Civil Engineer by Governor Clive in 1800. The Bombay Town Hall was designed by Colonel Thomas Cowper in the early 1820s.

Gibbs published his designs for London's St Martin in the Fields in his *Book of Architecture*. Caldwell was perhaps closest to the model. On T.F. de Havilland's work see his *Public Edifices of Madras*, Madras 1827.

17. The necropolis is foreign to England – if not to India – but the British in India were amongst the first to promote the idea of the specially

designated cemetery which reformers at home, whether motivated by hygiene or non-comformity, were advocating in the face of overcrowded churches and churchyards. An obvious consequence of the former, clearly relevant here, was the accumulation in churches of monuments recalling most of the Antique types, usually in low relief, but also free-standing. Many post-Piranesian pattern-books in both England and France were devoted to fantasies on the theme of the funerary monument but those of William Chambers in England and Delafosse in France, might be singled out as of special significance here. On funerary architecture in general see Curl, J.S., *A Celebration of Death*, London 1980. On the Anglo-Indian cemetery in particular, in addition to the general works listed above under Church and Colonial State, page 326, see:

Chetwode, P., 'Monuments to Empire Builders, *Architectural Review*, 8 1935;

Pearson, R., 'Calcutta Cemetery', *Architectural Review*, 7 1957.

Sharma, B.B., 'European Sepulchral Architecture in India', *Indica* 12, 1975;

Wilkinson, T., 'Crumbling Monuments of the Raj', *Country Life*, 2 September 1976.

18. On the adoption of Indian styles in the West see Head, R., *The Indian Style*, Chicago 1986.

19. As Stamp, *Urbs Prima*, points out, the works of the principal British Gothic revivalists were made readily available to Anglo-Indian builders through their publication in the leading architectural journals of the day, notably *The Builder and Building News*. These together with such works as A.W. Pugin's *True Principles of Christian Architecture*, London 1841, and G.G. Scott's *Secular and Domestic Gothic*, London 1857, eclipsed the 18th-century classical treatise – and pattern-book. For an introduction to 19th-century metropolitan developments see:

Cole, D., *The Work of Sir Gilbert Scott*, London 1980;

Crook, J.M., *William Burges and the High Victorian Dream*, London 1981;

Dixon, R. and Muthesius, S., *Victorian Architecture*, London 1978;

Hitchcock, H.R., *Architecture: Nineteenth and Twentieth Centuries*, Harmondsworth 1971;

Pevsner, N., *Pioneers of Modern Architecture and Design*, Harmondsworth 1960

Of the many Mutiny memorials the three-tiered, decorated Gothic tower on the Ridge at Delhi may be singled out.

20. As noted above, brief biographies of the main British architects in India are given by Davies, *Splendours*.

21. Speaking to the Royal Institute of British Architects in 1896 on his work at Baroda, Chisholm acknowledged Venetian Gothic as well as indigenous influences and commented 'It must be kept in view that the native Rajas and Chiefs of India are passing through a transitional period, that an old palace like that at Amber would be about as useless to the present Gaekwar of Baroda as to an ordinary English gentleman' (*Transactions* 1896).

Other notable examples of 'Western Classical' works include the late-19th century neo-Vanbrughesque exercise in Panna, the Petersburg-Palladian, neo-Louis XVI Lalbagh of Indore, the French architect M. Marcel's Beaux-Arts-Régence essay for Jagatjit Singh of Kapurthala, the Daria Rajmahal built for Porbandar by the State Engineer Phulchand Parekh in what might be termed an indigenous interpretation of the Iberian Renaissance, and the cool neo-colonial Anant Niva Khambhala nearby, which superseded it in 1927.

Other significant Rajput revival works are to be found in Rewa, Bharatpur, Bundi, Tripura and Kutch. Other notable hybrid works include the Motibagh at Patiala and the Ranjit Vilas at Wanaker, credited to the Maharaja himself – presumably under the influence of the later works of F.W. Stevens. For a selective coverage of the palaces of native rulers, extensively illustrated, see Baroda, Maharaja of, and Fass, V., *The Palaces of India*, London 1980.

Henry Irwin's Madras Victoria Memorial Hall (National Museum) (figure 338) is the prime example of flagrant Late Mughal Revival.

22. On the bungalow see:

Lancaster, C., 'The Origin and Evolution of the Bungalow', *Art Bulletin*, 9 1958;

Pott, J., *Old Bungalows in Bangalore*, London 1977.

On hill-stations see:

Buck, E., *Simla, Past and Present*, Calcutta 1904 and

Darley, G., 'Ooty' and 'Sanctuary of the Memsahibs: Ootacamund', *Country Life*, 12 January and 6 April 1978.

Vice-regal Lodge, Simla, was built by Henry Irwin of Madras in collaboration with Captain H. Cole, Royal Engineers, during the vice-royalty of Lord Dufferin in the 1880s. Apart from Simla, Mysore's Ootacamund was perhaps the most notable of hill stations: it provided a similar environment for the colonial servant and planter in the South – unpretentious architecturally if not socially.

On the new imperial capital and its principal architect, in addition to Irving, *Indian Summer*, see:

Baker, H., *Architecture and Personalities*, London 1944;

Butler, A.S.G. *et al: The Architecture of Sir Edwin Lutyens*, London 1950;

Byron, R., 'New Delhi', *Architectural Review*, 1 1931.

Lutyens, M., *Edwin Lutyens*, London 1980.

Both Byron and Irving publish drawings, plans and photographs taken during construction of the new imperial capital.

23. See Lanchester, H.V., 'The Maharaja's Palace at Jodhpur', *The Builder* 178, 1 1950, where the plans are published. For the background to the development of Lanchester's style see Service, A. (ed.), *Edwardian Architecture and its Origins*, London 1975 and *Edwardian Architecture*, London 1977.

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